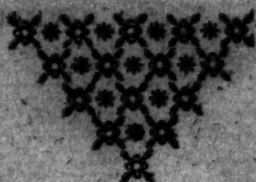


1750
M E D I C A L
COMMUNICATIONS.

VOLUME THE SECOND.



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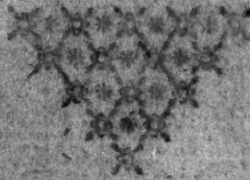
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M E D I C A L

COMMUNIONS

For Basky

VOLUME THE SECOND.



L O N D O N :

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MDCCLXX.

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any of the Publishers, or Surgeons, or the
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C. An artificial Opening made into the posterior Portion of the Sac, to which the popliteal Artery was contiguous.

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PLATE

PLATE IV
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C. An artificial Opening made into the posterior Part of the Sac, to which the popliteal Artery was connected.
D. The Artificial Tibialis Antica.

PLATE II

The Appearance exhibited by the dissected Parts in the Tibia after the Instruments were removed, and a Portion of the Tibia was sawn off, to expose the Arteries.
Tibialis Antica. — See page 100.

- A. A. A Portion of the Sac which projected laterally.
- B. An artificial Opening in the posterior Part of the Sac.
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PLATE

NEUTRICAL COMMUNICATIONS.

ERRATA.

- Page 23 l. 24 *for* exhibition, *read* exhibition
 38 l. 21 *for* in, *read* on
 103 l. 16 *for* that in, *read* than in
 — l. 21 *for* instance, *read* instances
 191 l. 9 *for* punctorius, *read* pulsatorius
 241 l. 14 *for* not been discovered, *read* not discovered
 244 l. 4 *for* come, *read* came
 — l. 5 *for* render, *read* rendered
 347 l. 4 *omit* in which
 398 l. 26 *for* Van der poll, *read* Van de poll
 467 and 475 *for* Bel, *read* Bell.

He is a farmer at
 ... near this city. He is about forty
 years of age, and has usually been a temperate
 man, but of a delicate constitution, and
 liable to coughs.

On the 24th of December, 1891, as
 he was walking with his face towards the
 ... of the ... he re-
 ceived a blow from ... which accidentally
 went into the hand of a ... who was
 ... two ... he had ...
 ... about the ... of the
 ... very near the chest,

E R R A T A.

- Page 23 l. 24 for exhibition, read exhibition
 38 l. 21 for in, read on
 103 l. 13 for that in, read than in
 — l. 21 for instance, read instances
 191 l. 9 for punctious, read punctious
 241 l. 14 for not been discovered, read not discovered
 244 l. 4 for come, read came
 — l. 5 for rendered, read rendered
 247 l. 4 omit in which
 298 l. 20 for Van der post, read Van de post
 407 and 422 for list, read list

MEDICAL COMMUNICATIONS.

- I. *Case of a Recovery after a Ball had passed through the Lungs.* By Mr. EDWARD RIGBY, Surgeon at Norwich. Communicated by WILLIAM OSBORN, M.D.
Read August 23, 1784.

MR. MOORE, the patient whose case I am about to relate, is a farmer at Heigham, near this city. He is about forty years of age, and has usually been a temperate man, but of a delicate constitution, and subject to coughs.

On the 24th of December, 1783, as he was standing with his face towards the fire, and with one of his arms raised, he received a ball from a pistol, which accidentally went off in the hands of a person who was sitting not more than two yards behind him. The Ball entered about the middle of the right scapula, and lodged very near the chest,

between the nipple of the right breast and the sternum.

Happening to be upon the road I was met by a messenger coming for me. I found the patient still standing by the fire, and leaning forwards against the chimney-piece, with his face inclined downwards, and a considerable quantity of blood issuing from his mouth. He immediately pointed to the ball, which was very obvious by the tumor it had occasioned in the integuments; being so near the surface that I was able to extract it by a small opening made with a lancet.

Though in all probability some portion of the clothes had passed in with the ball, I did not think it right even with a small probe to search for it, but immediately brought together the sides of both the wounds, neither of which bled much, and shut out the external air by applying to each a piece of lint, which was closely secured by adhesive plaster.

Being very little faint, he walked up stairs, and was immediately put to bed. The blood, which at first came up in a fluid state, soon lessened in quantity, and what was raised

raised was coagulated. As this excited a cough, and I expected the most formidable symptoms of inflammation to come on, I took away some blood from the arm, gave him an anodyne to allay the cough, and desired that he might be kept as still as possible. At the same time he was directed to avoid every thing spirituous, and to take but very moderately even of the most harmless food. I saw him again in a few hours; his pulse was then very little quicker than usual, no great heat had come on, he had very little pain in the parts, there was not the least emphysematous appearance upon the chest, and his mind was perfectly calm; but he still coughed considerably, and brought up at each time some coagulated blood. I directed some nitre to be administered occasionally, the anodyne to be repeated in the evening, and an opening medicine to be taken the next morning. He remained nearly in the same state during the rest of the day, and had a tolerable night, although his sleep was frequently interrupted by the cough. As he thought himself rather hotter the next morning than he had been, he was bled again, but he con-

tinued during the remainder of the day without any alarming symptoms.

The preceding mode of treatment being such as the nature of the case obviously required, was continued, and I was surprized, day after day, to find him absolutely without fever, difficulty of breathing, or any symptoms of inflammation. The plasters were not removed until several days after the accident, and the wounds then appeared to be merely superficial, and healed very soon without the least unfavourable appearance.

As the weather was remarkably cold at this time, he was entirely confined to his room, and for the first fortnight he was chiefly in bed. The quantity of coagulated blood which he at first brought up by coughing, decreased much after the second day, and the cough became in proportion more moderate, but he still raised, at times, a small quantity for more than a fortnight.

About a month after the accident, he came down stairs, and considered himself well.

To whatever cause this extraordinary recovery was principally owing, the patient's having been so remarkably attentive to regimen, having so carefully avoided bodily motion

motion and exertion, and having, notwithstanding the absence of all unfavourable symptoms, been repeatedly bled, contributed, I doubt not, to the prevention of inflammation. Moreover, I am persuaded that the circumstance of the wounds being so soon closed, and so seldom dressed, occasioned them to heal much sooner than they would have done, had they been exposed to the external air, or irritated by searching for the extraneous matter that was carried in with the ball, and which the event of the case proves to have been of no consequence, although at this time a small portion of the clothes may distinctly be felt under the integuments, very near the cicatrix in the chest; and to these circumstances likewise might in some measure be owing, his being so totally free from emphysema.

The ball was three eighths of an inch in diameter, and weighed two drachms and six grains.

Norwich, June 30, 1784.

II. *A Case of retroverted Uterus, in which the Paracentesis Vesicae was successfully performed.* By RICHARD BROWNE CHESTON, M.D. F.R.S. *Physician to the Gloucester Infirmary.* Communicated by Mr. HENRY WATSON, F.R.S. Read Sept. 21, 1784.

ON the 7th of October, 1781, I was desired by an apothecary, a few miles from Gloucester, to visit a poor woman, who had, for some days, laboured under an incontinence of urine.

On examination, I found the bladder full of urine, and so much distended, as to advance considerably above the navel. I therefore immediately introduced a male catheter (the only one I was able to procure) by which three pints of urine were evacuated, to the great relief of the patient.

Inquiring more particularly into the history of the case, I found the woman was about four months gone with child, and that on Tuesday the 25th of September, after a fatiguing walk, she had perceived her water dribbling from her, but without any particular fulness of the abdomen.

During

During the remainder of that day she complained of great pain, attended with such a bearing down, as made her fearful of a miscarriage. In the course of the succeeding night and day, she passed no urine at all, and being very much alarmed, as well from her sufferings, as from a distention of the abdomen, which had now come on, a surgeon in the neighbourhood was sent for, who drew off near two quarts of urine.

On Thursday (Sept. 27th) she was tolerably easy, but passed no more urine than what dribbled away now and then involuntarily. The next day (Sept. 28th) the surgeon again attempted to pass the catheter, but could not succeed, and only a tea-cupful of a bloody fluid came away.

As she was deemed in every respect a proper object for our Infirmary, she was soon afterwards admitted into it, under my immediate care *.

Having some suspicion that this was a case of retroverted uterus, I now made every necessary examination, and found the passage of the vagina very much straighten-

B 4

* Dr. Cheston was at that time one of the surgeons of the Infirmary.

ed, and the meatus urinarius so retracted, that it was with difficulty found.

I could not discover the os uteri, but felt a large tumor filling up the hollow of the sacrum, and bearing strongly against the perinaeum. On examining by the rectum, I found the same tumor pressing the sides of that gut so forcibly together, that its passage seemed entirely shut up.

Being now thoroughly satisfied that I was right in my conjecture, I endeavoured to pass a female catheter, but met with such resistance, that I could only introduce it about one-third of its length, when a few drops of urine came away; but having procured a long male flexible catheter, I was able, though not without great difficulty, to introduce it about half its length, when about a pint of urine came slowly away. A clyster was afterwards thrown up, by which a stool was procured, and the patient was directed to take an opening mixture.

The next morning (Oct. 9th) the catheter was again introduced, and near a pint of urine brought off, but without apparently lessening the size of the bladder. I then endeavoured, according to the methods recommended

commended in such cases, to alter the situation of the uterus, but without the least effect.

On the 10th in the morning I passed the catheter again; and drew off about a pint more of urine; when examining with great circumspection, I at last met with the ostinæ at the full length of my finger, resting as it were on the os pubis. In the afternoon of this day, for the first time, the patient had two stools without a clyster, and in the evening near a quart of urine was drawn off.

During the three following days every method from which relief could be expected was made use of to reduce the uterus, but without success; and though I could introduce the flexible catheter near three-fourths of its length, I could not draw off such a quantity of urine as sensibly to diminish the tumor of the abdomen. I therefore concluded that the only chance my patient had left, was from the paracentesis vesicæ, which I resolved to defer no longer than the next day.

On that day (Oct. 15th) I was prevented from seeing her till about five in the evening,

ing, when I found her in great pain about the region of the bladder, and in the back. The urine had been drawn off, as usual, in the morning; and being now convinced that no time was to be lost, I punctured the bladder with a middle sized trocar, which I passed into the tumor about two inches above the os pubis; and immediately upon withdrawing the perforator, the urine, which was highly offensive, ran off very freely. I chose this sized trochar, as the canula would allow me to introduce through it a flexible catheter, from which I thought it probable some advantages might be derived.

As the urine ran off so very freely, I deemed it advisable, now and then, to interrupt its discharge by stopping the end of the canula with my finger; and having taken away about three pints, I determined to defer drawing off the remainder for a few minutes, that the bladder might contract on what was left.* I therefore stopped the mouth

* I have been convinced by repeated experience, that we should not suffer the urine to run off too fast, by means of a catheter, when the bladder has been over distended for any length of time; for having in a certain degree lost its power of contraction, the sides fall together in a flaccid state, which in some instances within my knowledge has laid the foundation of future mischief.

mouth of the canula with a small cork. The ease she received from the discharge was acknowledged by the most grateful expressions, and it was observed by a gentleman who held her hand during the operation, that her pulse, from being small and quick, became full and free.

At the expiration of about ten minutes I drew out the cork to get away the remainder of the urine, when, to my great disappointment, not a drop would pass; and introducing a probe to examine into the cause of this obstruction, I had the mortification to find that the end of the canula was not in the cavity of the bladder. However, though I could not pass the probe into the bladder, I had the satisfaction, by pressing the end of the probe against the sides of the bladder, to find the urine run off in a stream through the wound to the amount of two pints more.

As the belly became flaccid, I withdrew the canula, and after covering the puncture with a bit of plaster, and the whole abdomen with a cloth dipped in spirits, ordered the patient to be put to bed, and a clyster to be injected.

About

About two hours afterwards she began to complain of a violent pricking pain in the lower part of the abdomen, which particularly affected the left iliac region, and the abdomen soon became so tender, that she could not suffer it to be touched. I now introduced the catheter into the urethra; it passed with great facility, and near twelve ounces of urine came away.

On examining the state of the vagina, I observed that the protrusion had entirely retracted within the os externum, but the os uteri could not yet be discovered. I ordered six ounces of blood to be taken from the arm; and another clyster to be thrown up, and, after its operation, a saline draught with Thebaic tincture to be administered. I likewise desired, that a female catheter might be introduced and left in, to prevent any accumulation of urine.

The next morning (Oct. 16th) I found the patient had been very restless the whole night; and that the abdomen was still very tender to the touch. Her pulse beat near 140 strokes in a minute; the heat of her body was moderate, and at times there had been a gentle moisture on her skin. She had
had

had a very copious stool in the night. The catheter having proved very inconvenient to her, it was only passed occasionally, at which times a considerable quantity of urine was drawn off.

Upon examining the vagina, I now found the os uteri in its natural situation.

In the course of the succeeding day she had three stools, with one of which some urine passed off. The abdomen was ordered to be fomented with a strong decoction of poppy-heads, in which was dissolved some crude sal ammoniac. The catheter had been introduced six times during the last twenty-four hours, and about half a pint of water each time came away.

Oct. 17th. She had passed a tolerable night and the soreness of the abdomen was much lessened. I now observed for the first time, the labia to be much tumefied but they were neither hard nor œdematous. She had had a stool in the night, and was sensible that some urine had passed off with it, though the catheter had been introduced with its usual effect every four hours.

Her pulse was still of the same quickness as the day before. About the middle of the

the day she complained of phlegm in her throat, which at times excited efforts to vomit; in the evening she appeared much indisposed, frequently complaining of the uneasiness in her throat just mentioned, and which she described as arising from the affected part * of the abdomen. She was ordered to take a strong infusion of chamomile flowers, with twenty drops of spiritus vitrioli dulcis every four hours.

October 18. During the preceding night, she had been very restless, and, at times, delirious; her respiration also was much affected, and she made great efforts to discharge the phlegm she had before complained of, but with such little effect, that she appeared to be in the greatest danger of suffocation. After giving repeated doses of spiritus volatilis aromaticus, a proper expectoration came on, with a general relief of all her symptoms.

The next day, (Oct. 19.) she continued to mend; but on the 20th, complained of soreness round the puncture, and, upon examination, the integuments at this part were found

* This is a circumstance I have several times observed in slow inflammations of the intestines and peritonæum.

found to be hardened and inflamed; and the day following (Oct. 21st.) a considerable discharge of very offensive matter took place, from the orifice made by the trocar.

In the course of the five succeeding days the discharge diminished, and became more favourable. She also gained ground both in strength and spirits. Till this time, however, she had been under the necessity of having the water drawn off, as from the beginning. But, on the morning of the 27th, she, for the first time, felt the motion of the child; and, soon afterwards, she had an inclination to make water, which came away in a considerable quantity, and from this period continued to be voided naturally.

The urine, for the first three days, was of a natural colour; but, on the fourth, it was exceedingly foul and turbid, and deposited a purulent sediment. This kind of urine continued to be voided for several days; but, by degrees, it became less loaded, and the sediment much lighter, and more like the mucous deposit which attends every irritation of the bladder. The

external

external wound soon afterwards healed up very kindly. She was perfectly recovered by the 12th of November; and, at the expiration of her time, was delivered of a fine healthy child. Since that period I have been informed that she has been again pregnant, and passed through her time without any untoward circumstances.

In most of the cases of this kind, related in the Medical Observations and Inquiries, London Medical Journal, and Medical Commentaries, the catheter could be introduced, and the whole of the urine being drawn off, the uterus appears to have been easily restored to its place. Two instances where this could not be done are recorded as fatal. In one of those instances, related by Mr. Lynn*, the circumstances of which seem, in every respect, to agree with those of the foregoing case, had the patient submitted to his proposal of the paracentesis vesicæ, there is reason to hope she might have been preserved. The present instance shows the propriety of the advice, and confirms the very pertinent remarks annexed to Mr. Lynn's paper on this subject.

I thought

* Medical Observations and Inquiries, vol. iv. p. 388.

I thought it most advisable to make the puncture at that part above the pubis, where I could perceive a fluctuation, and, to avoid doing any mischief, I made use of a trocar not more than two inches in length.

The ready flow of the urine prevented me from using a catheter as I at first intended; but the accident that occurred of the removal of the canula, should, I think, be a caution to us in future, that whenever a short trocar is employed, (and such only a prudent man would use *) either another long canula, or a flexible catheter, which last I would prefer, should be introduced to prevent a similar event; for, that the urine from being interrupted in its passage through the canula, insinuated itself into the cellular membrane, and produced the abscess, I apprehend cannot be doubted.

* Since the foregoing account was drawn up I have been informed, that a surgeon, in a similar case, by making use of a longer trocar, penetrated the uterus, in consequence of which, the case terminated fatally.

III. *Account of a Case in which the Tendon of the Biceps Muscle was punctured in bleeding.* By Mr. THOMAS COLBY, Surgeon at Torrington in Devonshire. Communicated by EDWARD WHITAKER GRAY, M.D. F.R.S. Read October 5, 1784.

ON Friday, the 25th of Sept. 1778, I bled a Lady, of about thirty-five years of age, in the vena basilica. She felt not the least unusual pain at the time of the operation, nor any inconvenience after it, until the evening of the next day, when she complained of a tenderness at the wound. I then examined it, and perceiving nothing particular in its appearance, applied only a pledget with linim. alb. and some sticking-plaster over it. The day following, however, (the 27th) she felt an unusual stiffness throughout the whole lower arm; and it was not without some pain and difficulty that she could raise it to her head. In the evening the pain darted towards the extremities of her fingers, and she complained of a sensation over the muscular part of the arm, as if it were bound with a cord. I directed a paregoric draught to be taken
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at night, and a purging medicine the next morning; and the whole lower arm after being rubbed with a mixture of oil of olives and laudanum, to be surrounded with an emollient cataplasm.

On the 28th, she seemed somewhat easier, but grew worse towards night: the pain near the place of incision, was much increased, though the wound itself was perfectly closed and free from inflammation; the arm also appeared to be a little swoln, and a slight degree of tension was perceptible upon the anterior and muscular part of it. The sensation of being bound, as with a cord, continued as before; but no inflammation appeared, neither was the arm painful on being moderately pressed.

She continued nearly in this state until about the 12th of October, during which period I had continued to flatter myself with hopes, that by perseverance in embrocating the arm with the liniment, and the use of frequent fomentations and emollient cataplasms, assisted by a strict regimen in diet, laying the arm in a relaxed position, and confining her, for the most part, in bed, together with the exhibition of an opiate at night, and a laxative when necessary, things would gradu-

ally have mended: but I had the mortification to find that we gained no advantage. The liniment was changed for camphorated oil, and afterwards for Goulard's Aqua saturnina, but still without signs of amendment.

On the morning of the 13th, I found the patient had passed a very restless night. and that the pain in the arm had been very acute. As she complained of frequent shiverings, and considerable thirst, I ordered her a laxative, and a saline mixture. Towards night, her pulse grew quick, and her skin became hot; she had nausea, attended with bilious vomitings, difficulty in making water, great uneasiness in her bowels, and a fixed pain below the sternum, and about the lower jaw. I had now too much reason to fear the accession of a locked jaw.

She would not permit me to bleed her, from a consciousness, I apprehend, that her present sufferings originated from that operation. I therefore ordered her feet and legs to be put into warm water, and twenty drops of Tinctura Thebaica to be given every two hours. After the third dose of this medicine she became sleepy, and it was then discontinued.

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A physician was now sent for, who came in the morning; but before he arrived, a violent swelling had come on, attended with an Erysipelas, which spread over her face, neck, and arms; and, from that instant, all the symptoms of stricture and danger abated. The bark was then plentifully administered, the swelling gradually subsided, and, in about ten days, she was able to walk out in the air; though the perfect and easy motion of her arm was not recovered until two or three months after.

Torrington,
Sept. 15, 1784.

IV. *Case of a Child born with Symptoms of Erysipelas followed by Gangrene. By the late ROBERT BROMFIELD, M.D. F.R.S. Physician to the British Lying-in-Hospital. Read, February 8, 1785.*

ANNE HALLET, aged twenty years, and apparently healthy, came into the British Lying-in Hospital, on Thursday evening, the 23d of December, 1784, and was delivered of a boy of a moderate size the next evening, about nine o'clock, having had a natural easy labour. The child was born with its whole face swelled and inflamed, particularly the left side of it, which had the true erysipelatous appearance. The legs, feet, and left-hand, were likewise swelled and inflamed; and on each tibia, appeared a dark brown, or livid, flough, of an oblong form: that, on the left, extended almost two-thirds of its length, was nearly an inch in diameter, and had a granulated appearance; but that on the right tibia was not so large. The ends of the toes felt cold, and were covered with black floughs,

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The child was not seen by any of the medical gentlemen belonging to the hospital till the next day, when Mr. Graves, the senior Surgeon, who arrived first, ordered all the parts affected to be wrapped in cloths dipped in camphorated spirit of wine.

Dr. Garthshore and myself soon followed Mr. Graves to the Hospital, and found the child exactly in the forementioned state, with the addition of some small vesications, which had arisen in the course of the night.

We all considered this disease to be that kind of erysipelas, which we had often seen attack children in the hospital a few days after their birth, in different parts of their bodies, but generally beginning about the genitals, or navel; the integuments, as the disease advanced, becoming hard and painful to the touch, and sometimes spreading so rapidly as to destroy them.

In the less violent attacks, we had frequently seen success attend the exhibition of considerable quantities of bark, and the external use of fomentations, spirituous em-

brocations, and emollient cataplasms; we therefore ordered the child to be fomented twice or thrice every day, sprinkling the clothes with camphorated spirit of wine, which was also applied to the affected parts, previously to the application of a bread and milk poultice. The child, at first, took four ounces of a strong decoction of bark daily, and we observed with pleasure, after three days, that the face and other parts affected, were less swelled, and had a better appearance; especially the toes and fingers, on which vesications were now formed.

On the third day, a vesication began to form on the left cheek, and another just above the eye-brow, on the same side.

On the 4th day the vesications were increased in number and size, especially on the legs, where they extended almost over the whole limb. Some *confectio cardiaca* was ordered to be added to the decoction of bark, and pledgets dipped in *oleum terebinthinæ* were applied to all the parts affected, previously to the application of the poultice. The mother having now an appearance of milk, the child was put to the breast; but,

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on account of the badness of the nipples it could not profit by it much.

On the 5th day there was little or no alteration.

On the 6th day, the vesications on the left leg were opened, and a sanious fluid was discharged; the child now sucked its mother very well.

On the 7th day, a yellow slough appeared on the metatarsus of the left foot, near the lesser toes.

On the 8th, the skin on the right leg, between the slough and knee, appeared livid; and the cuticle of the toes was loose and shrivelled, seeming to threaten the loss of some of them. The child appeared much debilitated, but continued to suck; and, for the last three or four days, had taken eight ounces of the decoction of bark, with one drachm of confectio cardiaca every twenty-four hours. The pledgets were now dipped in digestive ointment, with oleum terebinthinæ; and some cataplasma e cymino was added to the poultice.

On the 9th day, the sloughs were every where separating; the livid colour of the skin on the right leg had disappeared; the slough

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on the metatarsus, which before looked yellow, was now very black; but that as well as the others, was beginning to separate.

On the 10th day, every thing appeared still more favourable; the cuticle, and some of the nails of the toes of the left foot came away with the dressings, leaving the toes covered with a new cuticle.

On the 11th and 12th days, the sloughs every where continued to separate though slowly; the vesications on the toes of the right foot, and those on the fingers of the left hand, still remained, and the cuticle of these parts was in a shrivelled state.

On the 13th and 14th days, the child continued to increase in health and strength. On the 15th and 16th, the thick sloughs from the tibiæ, came off, and left the denuded parts of a florid good colour. On the 16th and 17th, the sloughs were separated from the cheek and forehead; that on the metatarsus separated very slowly, and those on the left hand and right foot were still adhering. Some aphthæ were observed on the tongue and lips, but they soon disappeared.

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On the 19th, the sloughs on the metatarsus having come away, and the child appearing in other respects to be going on well, the quantity of decoction of bark given in the course of the day, was diminished to four ounces, and the confectio cardiaca was omitted.

On the 25th, the sloughs from the hand separated, when the little finger, and two joints of that next to it, came away on the dressings; five days after, one joint of the middle finger came away in like manner: and, on the 32d day, the child was taken from the hospital. I had occasion to see it again ten days after that time, and it was then in perfect health.

In the treatment of children attacked with erysipelatous complaints soon after their birth, it has been usual at the British Lying-in hospital, to administer the bark *per anum*, as well as by the mouth; but this child swallowed so much of it, and it agreed so well with him, that we thought we might safely trust to what we found him able to take that way.

V. *An Account of the Species of Erysipelas described in the preceding Paper, as it has appeared in Infants at the British Lying-in Hospital.* By MAXWELL GARTHSHORE, M.D. F.R.S. and S.A. Fellow of the Royal College of Physicians in Edinburgh, and Physician to the British Lying-in Hospital. Read February 8, 1785.

THE truly uncommon case related in the preceding paper, with the utmost fidelity, by my late worthy colleague, is highly interesting; not only as it minutely describes the alarming symptoms and progress of a dangerous inflammatory disease, which has been but seldom observed to affect infants, (and particularly before they have come into the world); but also as it points out a method of cure, which we have for many years found to be generally successful at the British Lying-in Hospital, and which may probably be found successful in similar inflammations. It may not therefore be amiss in this place to subjoin a short account of our preceding observations and experience in this singularly dangerous disease.

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I well remember that when it first occurred, after I became Physician to the Hospital in 1766, the late Dr. Hunter told me, they had tried various modes of treatment, both of the antiphlogistic and stimulant kinds, without being able to determine which was preferable; and that the disease was so fatal, that few or none who were severely attacked with it escaped. I saw very few instances of it for the first eighteen months, and those proved fatal.

The first successful case being remarkable, I will briefly relate it from the Journal I kept at the time.

April 10th, 1768. The infant of Sarah Wing, then six days old, was observed to have a broad erysipelatous inflammation round the newly separated navel, which appeared to us to be of that kind, which in all the preceding cases had been found fatal. But having in the last instance observed this inflammation to terminate in gangrene, and Dr. Underwood, then one of our surgeons, having suggested the use of the bark, at that period, we agreed to give it, and found the life of the child so much longer protracted than any of the former, that we
determined

determined to exhibit it from the beginning in the very first case that should occur. Being afraid, under circumstances so threatening, to trust to the quantity of bark a child could be made to swallow, we ordered glysters of a strong decoction, and extract of it to be thrown up every six hours; and saturnine applications being at that time much in use, we directed the saturnine ointment to be applied to the parts affected morning and evening. At this time the inflammation had spread over the whole abdomen, and was of a deep red colour, especially towards its centre round the navel, which appeared raw and bloody. The inflamed skin was hard, and seemingly very painful when touched; inflammation had also extended over the penis and scrotum, which were much enlarged, and beginning to grow hard.

At the end of two days, under this treatment, the inflammation ceased to spread; the child was observed to suck and sleep well; and on the seventh day from the commencement of this course, the danger seemed entirely over.

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On the ninth the glysters were thought no longer necessary ; and by the twelfth day the child was nearly well, without either flough or digestion from the navel, or any other part.

As it was thought by some, that the success of the preceding, and of some other cases that followed, was more owing to saturnine applications than to the bark, and as there seemed in general to be no high degree of fever, a poultice with Goulard's vegeto mineral extract had been in one case prescribed alone, and it seemed to cure the disease topically wherever it was applied : but the inflammation constantly re-appeared in other parts, and gradually spread over the whole body and limbs, which last became stiff and pale ; the child's appetite was destroyed, its strength impaired, and death, preceded by universal tension, soon followed.

We therefore determined, to trust entirely to the internal use of the bark, and the external use of the common fomentation, in which soap was dissolved. Accordingly to the child of — Hatton, which was seized, in December 1769, on the sixteenth day

day from its birth with an inflammation of the labia pudendi, extending down the whole lower extremities to the feet, we directed that glysters of a strong decoction of bark should be administered every three or four hours; and that as much as possible should also be got down by the mouth. The common fomentation with soap was likewise applied twice a day.

By this treatment the child was so nearly well on the eleventh day, that it was then taken from the Hospital.

These remedies, with the occasional use of *confectio cardiaca*, we continued at the Hospital till the year 1783. During that period several cases occurred, of nine of which (all dangerously affected) I have kept an accurate account. Six of those patients recovered and the three who died seemed to be carried off so suddenly (one in twelve, and another in less than thirty-six hours), that it appeared necessary to have immediate recourse to some topical application, which might mitigate the attack more speedily than the bark internally could do.

Recollecting that Sydenham had used ardent spirits with aromatics in erysipelas,
and

and finding that spirituous embrocations with vinegar had been formerly used at the Hospital, with some appearance of success, I was induced in July, 1783, to try the effect of an application of the same kind, in the child of — Burton, who was seized on the tenth day after its birth with this species of erysipelas. In this case the inflammation began at the navel, and spread all over the belly and thighs. I instantly directed all the parts affected to be embrocated frequently with camphorated spirit of wine, and at the same time ordered as much strong decoction of bark to be thrown up by clysters, and to be given by the mouth, as the child could bear. By this method a sudden check was put to the inflammation, the child recovered much sooner than any we had ever treated, and was perfectly well in a few days.

The same treatment also succeeded with the child of — Onion, who was seized on the 15th of February, 1784, when eight days old, with an inflammation, which began in the neck, and spread over the hinder part of the head, and down the back. In this case, however, the inflammation terminated

in a tumor near the vertex, which came to suppuration.

Though all those who were treated in this manner did not recover, yet in none of them did death follow the attack so soon as had sometimes happened before we adopted this method.

I know but of four lost in the Hospital since that time, and in all of them the inflammation seemed to be checked: in two of those cases the disease was far advanced before we saw them; and indeed to speak more precisely, I know of but one instance where this mode of treatment, when early and regularly pursued, has not proved successful; and even in that, its efficacy in protracting life seemed considerable.

One of the four instances of fatal termination just now alluded to, was the infant of — Winepress, who was seized on the eighth day after its birth with this inflammation on the left arm. Camphorated spirit was applied, and the decoction and powder of bark were exhibited in as great a quantity as could be given. The inflammation soon after seemed to terminate in an abscess of the hand, which was opened, and pus evacuated; the arm, however, soon inflamed higher up, and
matter

matter again formed near the elbow: that was also evacuated, and both parts healed speedily. The inflammation then seized the other arm, which swelled very much, but did not suppurate; it afterwards seized one leg, and then the other; and on the eleventh day of the disease, appeared to be surrounding the lower part of the trunk, and soon reached almost as high as the navel, being of a dark red colour, approaching to a livid purple. On the twelfth day the nates were covered with gangrenous spots, with pale interstices; and the inflammation had spread higher to the roots of the hair, and round the neck. Notwithstanding all we could exhibit, or apply, the child died on the thirteenth day of the disease.

On examining the body it appeared universally tense, but the sphacelated spots were formed only on the nates and loins. On the strictest examination of the viscera of the thorax and abdomen, no mark of inflammation was discovered. The disease appeared to have affected the skin *only*, and we could hardly perceive any morbid appearance in the cellular membrane.

In two other cases the inflammation seized the genitals with such violence,

that vesication and mortification came on so rapidly as to render all our endeavours ineffectual. One of these patients died on the third, and the other on the fourth day; and I think upon the whole, that more have died when the genitals were first affected, than when the disease attacked any other part.

In the fourth case, (the child of — Handy) which happened in 1784, the disease put on an ambiguous appearance. It first seized the right parotid gland, which was swelled and painful to the touch, but with hardly any appearance of external inflammation. To this a bread and milk poultice was applied, and we did not see it till the next day, when a deep coloured redness and hardness had spread over the whole neck and external fauces, accompanied with a more severe degree of fever than usual. The bark and spirituous applications had no effect; the child died in less than twenty-four hours after we saw it, and in little more than forty-eight after the attack of the disease. This child had been suckled by its mother, a seemingly healthy though delicate woman, and appeared to thrive for the first three weeks.

The child of — Chiltern, in December, 1778, appeared to have a slighter tinge of this

this redness spreading over all its limbs, attended with tension, stupor, inability to move or suck, and lay continually moaning, with an anxious Hippocratic countenance. It was supported by breast milk poured down its throat, and recovered during the use of frequent clysters of a strong decoction of bark, with *confectio cardiaca*, and the warm bath often repeated, in the course of seven days.

There is no disease in which I can speak of the apparent good effects of the bark with more confidence than in this. Besides what I have seen of its efficacy in the Hospital since the year 1768, I have had several opportunities of prescribing it for the same appearances (though I think in a milder degree) in private practice. There I have seen the disease, after attacking successively all the different parts of the trunk and extremities, at length yielding to the continued use of this medicine.

Respecting saturnine applications, I have only this to say, that although in some of our first cases, where bark was given internally at the same time, they were thought to be useful; yet from a variety of instances that

have occurred since, I think I am justified in concluding, that when used by themselves, they were so far from suspending, that they seemed to accelerate the fatality of the disease. For this reason they have been laid aside at the Hospital for many years.

This disease seems to bear a considerable resemblance to the erysipelas typhodes of Sauvages. Dr. Cullen considers this erysipelas typhodes as a variety, differing only in degree from the erysipelas vesiculosum which he describes * as a phlegmonic disease. If an inflammation, seemingly from a very different cause, and certainly requiring a very different treatment, may be considered as a variety only, the disease I have been describing may, with equal propriety, be considered as another variety of the erysipelas vesiculosum, though we scarcely have seen any vesications except in the genitals.

Dr. Cullen, in one part of his works, § very properly observes, “*erysipelas sæpe aliquid putridæ et gangrenosæ indolis præ se ferre,*” and in another † acknowledges, that probably,

* Synopsis. Nos. Meth. Tom. ii. § Ibid.

† First lines of the Practice of Physic. Vol. ii. P. 233.

bably an erysipelas may sometimes be attended with symptoms of putrid fever, and require the use of Peruvian bark; but he cannot, he adds, be explicit upon this subject, as such putrid cases have not come under his observation.

This must appear rather extraordinary to all who know the practice of this city—In St. Thomas's Hospital the free and successful exhibition of the bark, has been long established as a cure of those fevers that are attended with erysipelas, and I have myself seen its success in private practice repeatedly.

At the time we first exhibited the bark to infants in 1768, we were not so well assured of its general efficacy in erysipelas as we have been since; and the only thing new in the practice is the exhibition of the bark, and the application of camphorated spirit so freely to infants in the month.

Though resolution was the most common termination of the disease in those that recovered, yet in some it terminated favourably by suppuration, and in the preceding case, described by Dr. Bromfield, it terminated by the throwing off of sloughs, which is the only instance I ever remember, of the child surviving, when the parts were so deeply affected.

Though suppuration was generally a favourable termination, yet it was always a doubtful one; for when these suppurations came to be repeated, the infant was generally destroyed.

Our attempts to investigate the cause of this disease have been hitherto unsuccessful. Though not apparently infectious, it has been more frequent at certain seasons than others; but I never remember to have seen more than three or four instances of it in the same season. We have seldom had two in the house at the same time, and never two together in the same ward. In a case of twins, suckled by the same healthy mother, and both thriving equally well for the first fortnight, I have seen one fall a victim * to this disease while the other escaped.

Mr. Graves, our senior surgeon, a very attentive and experienced practitioner, thinks this disease is frequently owing to the mothers having indulged themselves in the use of spirituous liquors, and it is very certain that we found this to be the case in several instances, but in many others we could discover no such cause, nor indeed any other;

though

* This instance occurred in private practice. I was not called in till the 13th day of the disease, and the child died on the 17th.

though upon the whole it has chiefly attacked the delicate children of weakly mothers *.

Among the writers who treat of the diseases of infants, I have not found any description of this inflammation, except what Dr. Underwood has mentioned †, as having happened in our hospital; and among the practical writers on erysipelas, I have not been able to find any account of this affection, as attacking infants particularly, except in Hoffman ‡, who, in speaking of the various parts attacked by erysipelas, says; “Um-
“ bilicalem regionem in infantibus fre-
“ quentius infestat, ac inde per abdomen
“ spargitur, cum gravibus pathematibus,
“ funesto ut plurimum eventu.” He speaks of it too, as common in pregnant women, and as an hereditary disease, but, in his treatise of the Diseases of Infants, he never once mentions it.

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* Mr. Graves has since informed me that he has seen this disease several times in the poor-house of St. Margaret's parish, and that in every instance, he had discovered that the mother was addicted to the use of spirits; yet, it is well known, that children are often borne by women addicted to this pernicious habit without any such disease happening.

† Treatise on the Diseases of Children. 12mo London, 1784.

‡ Tom. ii. p. 99. § v.

I have not in any writer of observations met, even with a single case, nearly approaching in* similarity to those I have described, except one recorded in the *Miscellanea Curiosa*, for the year 1684, by Joannes Burgius, as affecting his own daughter, which I have subjoined in the words of the original* : but, as this disease ended in def-

* Filiola mea primogenita, mense Martis 1682 nata, præter corpus reliquum, quoad omnia membra, Dei gratiâ, bene formatum, sinistram solum manum *tumore gravi, rubro*, non splendente, deformem, ut affaci masini chelam potius, quam membrum humanum, referret, exhibuit, quo intra paucos dies discusso, benè habuit, neque ulla restitutæ sibi manûs ab alterâ sanâ remansit differentia. Duabus a nativitate exactis septimanis, ipso Paschatis festo, calore præternaturali ex improvîso corripî sentitur infans, et mox in malâ dextrâ intumescente subitò macula rubra erumpit erysipelatodes secundùm omnes circumstantias quæ non multò post nasum transcendens istumque simul obsidens pari quoque modo alteram cum labiis afficiebat. Evanidâ hâc per biduum facie, frons, exceptâ in ejus medio particulâ grossi argentei magnitudine, et sinciput eodem tumore et rubore deformabantur, statimque occiput, collum, humeri, dorsum, brachia et manus idem experiebantur fatum, salvò manente pectore toto, quod cum frontis parte notatâ, et mento, solâ immunitate gaudebat. Notatu dignum est, morbo has partes affligente, gravissime ægrotavisse puellam, de vita periclitantem, adeò enim omni
vigore

desquamation, after the manner of the worst species of scarlet fever, under the use of medicines which we should now reckon of little efficacy, if it deserves to be considered as a disease of the same *genus*, it must, at least,

vigore destituta vitali, subfidente quoque fontanellâ communi illo moribundorum infantum prognostico, vultum præ se ferebat Hippocraticum. Verso tamen rerum statu intra paucas horas vires prostratas ægra recolligebat et detumescens membris modo dictis calamitate suâ defuncta videbatur. Sperabam etenim Rosam, quam in adultis aliquoties, & nuper demum in sene ferè septuagenario a capite incipere, nec ultra colli terminos progredi observaveram, in corpore tenello quoque circa isthæc confinia substituram. Præter opinionem autem abdomen, lumbi, clunes et inguina brevi eandem subibant fortunam, et ex ejulatu quidem infantis maximo constitit, graviolem fuisse Inguinum, quàm præcedentium partium, dolorem, citius tamen hic tumorem, ac alibi, cessisse, ob urinæ affluentis, uti conjicio, medelam, notavi. Tandem et hoc climate restituto in femoribus et pedibus omnis tragœdia læto cum eventu finita est, quæ per tres hebdomadas, et quod excurrit, durans omnes affectas partes in paroxysmo plus quàm triplo monstruosè auctas, reddiderat, rejectisque demum *squamis renovata cutis* emergebat. Medicamenta paucissima adhibere potui, bezoardica volatilia et fixa, pulveremque externum myrrhatum et modicæ camphoratum. Valuit tamen ab eo tempore infans ex voto. *Vide — Joh. Burgii Obs. de Erysipel. rar. apud Miscell. Curios. sive Ephemer. Med. Phys. Dec. II. Ann. 3. p. 334.*

least, be allowed to be a much milder species of the inflammation I treat of.

I think it is important to add, that this erysipelas ought to be carefully distinguished from another inflammation, somewhat similar to it in appearance, but very different as to its attending symptoms, parts affected, and termination, of which we had a singular instance in the child of ——— Warwick, who, in June, 1773, was observed, after the first week, to be uneasy and hot, to vomit a yellow fluid frequently, and to have fewer stools than is usual for a child of that age. A gentle emetic was first given, after which manna was copiously poured down, and clysters frequently exhibited: notwithstanding which, his bowels were difficultly and scantily evacuated. Two days after, the abdomen was observed to be swelled, tense, painful to the touch, and had an inflamed appearance, which extended to the scrotum. Gentle aperients, clysters, fomentations, and the semicupium, often repeated, were of no avail. He died on the twelfth day from his birth, and the fifth from the attack. On opening the abdomen, we found the appearances very similar to what
we

we had often observed in the true puerperal fever, viz. a purulent exudation covering the surface of the peritonæum, and an adhesion of many of the viscera to this membrane, and to one another, from the diaphragm downwards, with some extravasated fluid in the abdominal cavity. On laying open the scrotum, that also was swelled and inflamed; and we found purulent matter upon the surface of the epididymis and testis on each side; the testes themselves appearing inflamed. But though the chylipoetic and spermatic organs seemed to have undergone superficial inflammation, there was no appearance of any tendency to mortification.

This instance of what we thought a true and extensive peritonitis, appeared to us a very uncommon phenomenon in a child of that age.

VI. *Case of an unusually large Abscess, seated between the Peritonæum and Abdominal Muscles, from which the Matter appeared to be discharged, sometimes by the external Opening, and at other times by Expectoration.* By Mr. CHARLES KITE, Surgeon at Gravesend, in Kent. Communicated by WILLIAM OSBORN, M.D. Read Feb. 22, 1785.

As faithful and accurate histories of remarkable cases are acknowledged to be of the utmost consequence in practice, and as I have not been able to discover one similar to the present in any medical work, I flatter myself the Society will not think it unworthy their attention.

On the 16th of August, 1784, I was desired to visit Mary Galloway, a married woman, aged thirty-six years.

Her chief complaint was a prolapsus uteri, which she first perceived on recovering from a very quick labour in the year 1772; from which time it had gradually increased,

increased, and was now the largest and most complete I ever saw.

I was informed, that the day preceeding my visit, she had been attacked with a slight shivering, succeeded by severe pain and soreness over the whole abdomen; the pain however soon abated, and by the time I saw her had entirely ceased.

As the uterus had been displaced so long, and was swelled so considerably, I prepared for its reduction by repeated gentle aperients, and frequent fomentations. After using these means a few days, I reduced the uterus, tho' not without considerable difficulty, and applied a ring pessary, but it was forced away, and the uterus came down again in half an hour. Two days after I reduced it again, and applied a pessary with a stem, secured (as I thought) very properly, with compresses and bandages, but it was equally ineffectual.

In a short time the abdomen again became painful, and swelled considerably; and the prolapsus increased in proportion. After using fomentations, cataplasms, &c. during four or five days, a fluctuation was evidently perceptible; a small vesication
appeared

appeared on the navel; and the next day there was an immoderate discharge of foetid, acrid matter, from a small opening in the umbilicus, just large enough to admit the head of a probe. This continued about twelve hours, in which time the quantity of matter evacuated amounted, as nearly as I could guess, to ten or twelve pints. I saw her half an hour after it had burst, and on introducing my probe, as she lay on her back, I passed it in a perpendicular direction quite to the point, and I likewise was able to pass it under the integuments, and, as I thought, abdominal muscles, in an oblique direction towards the anterior part of the left crista Ilii.

Her pulse, which beat from 130 to 140 strokes in a minute, was irregular and extremely feeble: her tongue was covered with a thin, dry, brownish fordes; her teeth were free from moisture, and white like a dead bone; her flesh was greatly emaciated; and her whole countenance truly Hippocratic.

I observed above, that on introducing the probe, it passed immediately, and very readily

readily down towards the spine ; next morning, when between ten and twelve pints were discharged, I found it impossible to pass the probe in the same perpendicular direction, though it went very readily four or five inches towards the left ilium ; so that, without exerting a greater degree of force, or examining more minutely, than we thought prudent, we could not determine whether the disease was, or was not, seated in the cavity of the abdomen.

Notwithstanding the reduced state my patient was in, and the little probability there seemed to be of her recovery, I did not hesitate to advise her to have the opening enlarged, with a view, not only of allowing a free exit to the matter, but likewise to give us an opportunity of ascertaining the nature and seat of the disease, and in consequence, determining what might be proper to be pursued in future : but all the arguments I employed were of no avail, as she obstinately persisted in refusing to permit the use of the scalpel. She was also equally averse to the application of a caustic or seton.

I therefore advised her to be kept as clean as her situation would allow, and the room to be properly ventilated; at the same time recommending such a posture as would facilitate the discharge of the matter; and directing an assistant to press in the course of the sinuses several times in the day.

For some time the patient's stomach had been so irritable, as not to retain the bark in any form, but now she was able to take it, together with an anodyne at night. The use of these medicines was followed by more rest at night, an abatement of the quickness of the pulse, and some little inclination for nourishment.

It gave me great pleasure to perceive the advantage we gained from this mode of treatment, notwithstanding the immoderate quantity of matter discharged during the first week; after which time the quantity of it daily lessened, the fever abated, her strength, spirits, and appetite, increased; and on the twenty-first day, from the time the abscess burst, the wound was healed.

It was a considerable time before she compleatly recovered her health, but several months

months are now elapsed, and she has had no return of her complaint *.

During my attendance, I observed a circumstance which surprized me not a little; it was this: at the time I first saw her, she was troubled with a short cough, which was at first dry, but on the third day after the abscess burst, the matter from the opening almost ceased to flow, and she expecto-

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rated

* Since this paper was read, the Society have been favoured by Mr. Kite with the following particulars of the case, in addition to his first account.

" About six months after the date of my former account, the patient began to be affected with symptoms of pulmonary consumption; and in the latter end of November, 1786, when I was again desired to see her, I found her in the last stage of that disease.

" She informed me, that she had not had either pain or swelling in the abdomen since I last saw her; and that the prolapsus uteri had occasioned scarcely any inconvenience. On examining the abdomen, which, on account of her emaciated state, I was enabled to do very accurately, there appeared for the space of two inches round the navel, to be a complete opening through the abdominal muscles down to the peritonæum; but the integuments were very sound; and there had never been any tendency to a protrusion of the intestines.

" In a few days she died. I lamented I could not ascertain the precise state of the parts that had been so peculiarly affected; but an unlucky concurrence of circumstances prevented my opening the body."

rated a vast quantity of what appeared to me to be pus, mixed with frothy mucus, equal in measure, as was supposed, to the discharge which ought to have been evacuated from the wound in the same time. This expectoration, the first time, continued twenty-four hours, and it afterwards returned several times, lasting from six to eighteen hours each time: it would then nearly cease, and the matter would soon after run as freely as before from the wound. This expectoration of pus alternating with the discharge from the opening, continued till the wound almost healed, and then finally stopped. The two discharges never occurred, except in a very trivial degree, at the same time.

The circumstances of this case render it very probable, that the tumor was not encysted, but that it was seated between the peritonæum and abdominal muscles. Supposing this to have been the case, it may seem wonderful, that the discharge should not have made its way into the cavity of the abdomen, rather than by the umbilicus: however, when we recollect that the external lamina, or what may be more properly called

called the cellular substance of the peritonæum, is in some subjects a very thick and firm membrane, and that the integuments are much thinner at the umbilicus, than at any other part of the abdomen, it will in a great measure relieve us from this difficulty.

How the prolapsus uteri was increased to such a size when the matter was formed, and why it became so much smaller than it had been for four or five years before, as soon as the matter was evacuated, I am at a loss to determine.

Gravesend, January 14, 1785.

VII. *A Case of total Extirpation of the external Parts of Generation.* By WILLIAM SCOTT, M.D. *Physician at Stamfordham, in Northumberland.* Communicated by Dr. GRAY. *Read March 8, 1785.*

Mr. W. P. a farmer of this parish, aged seventy-five years, had been for some time in a state of melancholy, when one morning blood was observed about his bed; and on enquiry it was found, that with a sharp knife he had cut off the penis, scrotum, and testicles, close to the abdomen. A linen cloth was immediately applied, and held to the part, and when I saw him, which was about four hours after, I found that the hemorrhage had ceased.

Common dressings were applied to the wound. At first he complained of little or no pain, but at the end of two or three days the flow of urine on the wound occasioned considerable uneasiness. To obviate this, he was advised to place himself on his knees, and, after loosening the bandage, and removing the lint from the orifice of the urethra,

urethra, to try to make water in that position. In this way he found himself able to discharge urine with great ease, and even to project it several inches from his body; he therefore continued to adopt this method till he was well, and never after complained of the urine's falling on the sore parts.

The cure went on without any fever or other unfavourable symptoms; and at the end of about seven weeks the wound was compleatly healed: a small prominence or elevated circular ring being formed around the orifice of the urethra.

VIII. *Observations on the Use of Opium in the Venereal Disease.* By Mr. JOHN PEARSON, Surgeon to the Lock Hospital, and to the Public Dispensary. Read June 28. 1785.

As the alleviation of human misery, is the grand object of the art of physic, every proposal that tends to facilitate so important a design, is highly worthy of attention. But it is a well known fact, that in our attempts to remove disease, we are often obliged to have recourse to very active remedies, whose salutary properties it would be desirable to obtain in a simple unconnected form. The certain efficacy of such medicines renders them a very valuable acquisition; yet a variety of circumstances concur, to prevent us from always obtaining the whole of their advantages. Among such articles of the materia medica, mercury in a simple and combined form has long maintained a high reputation. It has been regarded as the only specific to be depended upon, in the cure of lues venerea.

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Practitioners, however are aware, that effects unfriendly to the animal œconomy sometimes result from its use; and instances do occur wherein our best efforts are baffled by idiosyncrasy. Under such circumstances, it becomes an object of great consequence to be acquainted with a remedy, whose efficacy in the cure of syphilis is equally to be depended upon, and the administration of which, will never be attended with injury to the constitution. Some accounts tending to prove that opium possesses these qualities, have been presented to the public, to the end, that its merit might be more accurately investigated. In concurrence with so laudable a design, I beg leave to offer to the Society an account of some experiments made with opium, in a few cases of lues venerea.

To ascertain the specific power of opium in destroying the venereal virus, it is necessary, 1st. To administer it in cases truly venereal. 2dly, To be sure, that no mercury has been previously exhibited. 3dly, The cure ought to be permanent. 4thly, The number of negative instances ought not to exceed those which attend the administration

tration of mercury. 5thly, As the possession of those qualities would only place its merits on a level with those of mercury, it becomes necessary in order to prove its superiority, that less disturbance be produced in the system during the administration of opium, and that the constitution suffer less permanent injury. In trying this remedy, I have been careful to select such subjects as had not taken any mercury; and always premised bleeding and a purgative, before the administration of the opium.

C A S E I.

William Williams, aged twenty-four years, came under my care, January 1st, 1785. About six weeks before this he had contracted a gonorrhoea, and a chancre on the glans penis; and at the time I first saw him, had an open bubo, a phymosis, and an ulcer on the prepuce.

Jan. the 3d, he was directed to take one grain of extract. theb.

On the 4th, the dose was increased to two grains. He complained of great drowsiness

finess throughout the day; but there was no particular alteration in the excretions.

On the 9th, the quantity of extract was augmented to six grains *per diem*. He bore the medicine very well, and his complaints were better.

On the 15th, eight grains were ordered to be administered throughout the day, which seemed to be the largest quantity he could bear. His head was a good deal affected, and he was very drowsy. The venereal symptoms were much better.

On the 24th, he continued the pills regularly, without finding their effects at all diminished. All his complaints were nearly well.

Feb. 12th, he was directed to take ten grains of the extract *per diem*. This dose was persisted in till the 18th, when he was dismissed, cured.

A common bread and milk poultice was applied to the bubo; and milk and water was injected between the glans and prepuce several times a day. His pulse was very little affected during the course; but he evacuated his urine in small quantities for the last five days.

C A S E

C A S E II.

Catharine Smith, aged eighteen years, contracted a virulent gonorrhoea two months before she came under my care; and when I first saw her she had also some ulcers on the labiæ pudendi.

December 11th, 1784. She began with taking one grain of extract Theb. twice a day; and, on the 13th, the dose was increased to two grains each time.

16th. The opium not having produced any sensible effect, the quantity was augmented to eight grains *per diem*. She now complained of severe pain in the head, accompanied with giddiness, and sickness at the stomach. As she was costive, an opening medicine was given, which relieved the most pressing symptoms. Her venereal complaints were much better.

Jan. 1st. She was attacked with a fever, attended with a delirium, which obliged us to discontinue the opium.

7th. Being much better, she was ordered to take four grains of opium *per diem*.

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The feverish symptoms returned soon after the administration of the opiate.

10th. Being considerably better, she was ordered to begin with one grain in the day.

11th. The fever and delirium were reproduced by the first dose; so that it was entirely discontinued.

20th. All her complaints had disappeared, and she was dismissed, cured. No external applications were used in this case.

C A S E III.

Thomas Jeffers, aged forty years, had contracted, about ten months before I first saw him, the venereal disease. The first symptoms of it were chancres on the glans penis, succeeded by an enlarged gland in the groin; but these complaints had gradually disappeared without the use of any remedies.

When he first came under my care, he had copper-coloured spots on different parts of his body, and nocturnal pains in the bones. He had likewise a slight ophthalmia;

mia; but this seemed to be the effect of exposure to cold.

Nov. 29, 1784. After going into the warm-bath, he was ordered to take a grain of Thebaic Extract, morning and evening. His eye was washed several times a day with vegeto-mineral water.

Dec. 1st. He was very restless last night, and complained this morning of great pain in his head, accompanied with giddiness; he was costive, and had a white tongue. The eye was also more painful than when he began the use of opium. The Thebaic Extract was ordered to be continued in the quantity of one grain twice a day, and he took a dose of an opening electuary occasionally.

2d. He had two loose stools; slept ill in the night; and the pain and giddiness in his head were not at all alleviated. The Thebaic Extract was continued.

3d. He was much the same as yesterday, and was now ordered four grains of the extract in the day.

4th. The eruptions were beginning to look dry upon their surfaces; and his other
complaints

complaints were not augmented by encreasing the dose of opium.

10th. The eruptions were gradually disappearing. The effects of the opium were much as before.

14th. He now took eight grains in the day.

16th. He complained exceedingly of giddiness and pain in the head, but the eruptions were nearly gone.

20th. Fresh eruptions began to appear: the pains in his bones were nearly gone.

It did not appear prudent to raise the dose of opium beyond eight grains in the day, as the pain in his head was exceedingly troublesome. He continued to take this quantity till January 15th, when he requested earnestly to discontinue its use, from the very great uneasiness it occasioned both in his head and stomach. The latter crop of eruptions was not at all diminished in number; but he was free from nocturnal pains.

As these eruptions had not all the characteristics of the true venereal spot, I did not urge the use of mercury. He was requested

quested to call upon me in the course of two months, but I have not heard of him since.

C A S E IV.

Sarah Simpson, aged seventeen years, had been attacked about a month before I first saw her, with a virulent gonorrhoea. This had been soon succeeded by the enlargement of a gland in her left groin, which had suppurated quickly, and burst spontaneously about ten days before she came under my care. The edges of the bubo were inflamed and tumefied, the ulcer deep, and its surface very foul. She had not taken any medicines.

Nov. 26th, 1784. Eight ounces of blood were taken away, and she took a dose of salts on the 27th.

29th. She was ordered to take one grain of Thebaic Extract twice in the day, and to apply a poultice of bread and milk to the bubo.

30th. She slept well, and did not feel any particular effect from the opium.

Dec. 1st. The ulcer was much easier, and she slept well. The Thebaic Extract was repeated.

2d. She

ed. She complained of giddiness and pains in the head ; her bowels were very uneasy, and she had several loose stools, accompanied with severe gripings. A laxative was ordered, and she continued the Thebaic Extract.

3d. The diarrhoea and gripings were much better ; but her head was not relieved, and she vomited up every thing she took. Four grains of the extract were ordered to be given in the day.

4th. The vomiting had nearly subsided, but a slight diarrhoea still remained. Her bubo was easy and began to look cleaner.

6th. A lymphatic gland in the right groin began to enlarge and grow painful ; in other respects she was much the same as before.

8th. The diarrhoea and uneasiness in her stomach were no longer troublesome. The bubo began to heal very kindly. She was ordered to take six grains of the extract in the day.

12th. She still continued to grow better ; the quantity was therefore increased to eight grains.

16th. Soon after she had taken eight grains in the day, her head was much affected, and she complained of sickness. The swelling in the right groin gradually lessened.

21th. The bubo was almost healed, and the other gland had nearly recovered its natural state; but she was so much affected with the eight grains of opium in the day, that it did not appear safe to augment the quantity.

27th. Small ulcers begin to appear within the labiæ pudendi.

Jan. 3d. She had continued to take eight grains of the extract every day, which was as large a quantity as she could bear. The ulcers were very much enlarged, were become extremely painful, and had assumed the true chancrous appearance. A lymphatic gland on the right side was also enlarging, and had become very painful. I therefore ordered her to suspend the use of opium and to begin with mercury.

The sores presently began to alter their appearance, the gland subsided, and she was dismissed cured Feb. the 7th.

CASE

C A S E V.

William Fitzgerald, aged twenty years, came under my care December the 2d. Five months before this period he had contracted a virulent gonorrhoea, which was succeeded by an enlargement of glands in the left groin. He had, at this period, a very large suppurated bubo. This was the first time of his being infected by the venereal virus; and he had not taken any medicines.

Dec. 7th. The bubo was opened with the scalpel, and he began to take one grain of Thebaic Extract evening and morning.

8th. No particular effects were produced; he was therefore ordered to increase the quantity of extract to four grains in the day.

10th. There being no sensible alteration in his complaints, he was ordered to take six grains of the extract per diem.

11th. His head was a little affected.

12th. The dose was augmented to eight grains per diem. This quantity produced giddiness, and considerable pain in the head.

He was therefore ordered to take a dose of an opening electuary occasionally.

Jan. 6th. From the time that the dose of opium was encreased to eight grains a day, he complained greatly of pain in his head, and sickness at his stomach. No particular increase or diminution of the excretions was perceptible. The disagreeable effects of the medicine now began to encrease; he had great difficulty in breathing, with a sense of tightness across the chest, and his general health was declining very fast. The ulcer had never shewn any disposition to heal; it was much larger than it was three weeks ago; the edges were callous and serrated; a considerable hardness surrounded the whole sore, and several sinuses were forming in different directions. He was therefore ordered to suspend the use of opium, and to begin with mercury.

Appearances soon began to change for the better; his health amended daily; and in about five weeks from this period he was dismissed, cured.

CASE

C A S E VI.

James Marlow, aged twenty-six years, came under my care November the 27th, 1784, having ten months before contracted a virulent gonorrhoea. At the time I first saw him he had a gonorrhoea, with several venereal ulcers on the corona glandis, and an enlarged gland in the left groin.

28th. He was ordered to take two grains of Thebaic Extract in the day.

30th. As there were no sensible effects from the extract, he increased the dose to four grains in the day. He complained of giddiness in the head, and great drowsiness. His groin was painful, and he had two loose stools. As there was no particular alteration in his symptoms, he was soon ordered to take six grains *per diem*.

14th. His head was so much affected by taking six grains in the day, that I had not thought it proper to augment the quantity. The sores were quite healed, but he complained of a little tenderness in the groin.

He was now directed to take eight grains in the day.

17th. The gland had almost recovered its natural state. In other respects he was much the same as on the 14th.

21st. He was free from all complaints, but those arising from the opium.

27th. He still continued to take eight grains a day very regularly; and the sensible effects of the medicine were not at all diminished. He complained of soreness on the corona glandis; the part was inflamed, and the skin appeared disposed to ulceration.

Jan. 2d. The gland in the groin was enlarging very rapidly. He was ordered to persist in the use of opium.

5th. There were four venereal ulcers at the posterior part of the corona glandis, and on the internal surface of the prepuce, which increased every day. Two distinct lymphatic glands were enlarging and painful; one in the left groin, the other on the upper part of the thigh, on the same side. He was therefore ordered to discontinue the opium, and to begin to use mercury.

15th. The gland in the groin being completely suppurated, was opened by caustic.

He was dismissed cured, Feb. 17.

C A S E

C A S E VII.

Elizabeth Smith, aged nineteen years, came under my care January 6th, 1785. She had been infected about a month before. The first symptoms that appeared were gonorrhoea virulenta, and an enlarged gland in the groin. At this time she had the same symptoms, chancres within the labiæ pudenda, and venereal eruptions.

Jan. 9th. I directed her to take two grains of Thebaic Extract in the day.

10th. As no sensible effects were produced, she encreased the dose to four grains.

14th. The dose was encreased to eight grains in the day, and her venereal complaints were much the same as on January the 6th.

February 1st. Her head was a little affected by the opium, but there was no alteration in any other respect. She was now directed to take twelve grains in the day.

4th. She began to complain of head-ach and giddiness ; the same dose was still continued.

10th. The venereal complaints were neither better nor worse, and the opium disagreed with her stomach. She was ordered to discontinue its use, and to enter upon a course of mercury,

C A S E VIII.

James Pilkington, aged twenty - three years, came to me, December 2d, 1784, with an open bubo. He had never taken any mercury. Two grains of Thebaic Extract were ordered to be taken per diem.

4th, He complained of a little pain in his head. The dose of opium was augmented to four grains in the day.

6th. There was an increase of pain and giddiness, but no alteration in the state of the bubo.

9th. He still complained of his head ; I, however, increased the quantity to six grains. This augmentation produced a good deal of giddiness and pain in the head, and
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an incessant vomiting, His health also began to decline. The opium was therefore discontinued.

It is now above two years since I first began to try the efficacy of opium as an antivenereal remedy. The only cases in which it seemed to succeed with me, are now made public; in every other instance, either of syphilis or gonorrhoea, the event has proved unsuccessful.

I did not apply a solution of opium to the venereal sores, because the healing of these by external applications, would have rendered the virtues of the new remedy less conspicuous. When mercury is properly introduced into the system, this kind of ulcer will frequently get well by the most simple applications.

There is a very striking difference in the degree of success which has attended the use of opium. In Medical Communications, vol. 1st, the successful cases are said to be three to one; I have not found it advantageous once in ten times; and in those cases where it was apparently useful, I

strongly

strongly suspect that they were not truly venereal*.

The most experienced practitioner cannot always give a decided opinion, that a patient *is* or *is not* tainted with the syphilitic virus. When the history and collateral circumstances have rendered it probable, it is usually safe to act upon such a presumption. But when a new medicine is proposed as a specific, in the cure of this dreadful disorder, we are authorised to expect

* It has been very common to confound gonorrhoea with syphilis; and to call the symptoms of each by the general name of *venereal* symptoms; but a real difference subsists between the two, although the discrimination is not always obvious. Among the cases I have related, that of William Williams bears some marks of having been a *truly* venereal one; but those of Catharine Smith and Thomas Jeffers are not perfectly unequivocal,

Were I to criticize upon the cases published by Dr. Michaelis*, I should point out fifteen of them, as being unfit for the purpose of proving the efficacy of opium in lues venerea, viz. Cases the 2d, 4th, 5th, 6th, 7th, 9th, 10th, 11th, 14th, 15th, 16th, 17th, 19th, 20th, and 21st. In many of those patients the symptoms were not clearly venereal; and several of them had previously been taking mercury. The quantity indeed was not considerable—but I have oftener than once, seen a very bad case permanently cured, by rubbing in two drachms of mercurial ointment.

* See vol. i. of this work.

pect something more than a presumptive evidence of its efficacy. Mercury, properly administered, scarcely fails three times in five hundred of those cases which are commonly regarded as venereal. The proof of its specific powers, therefore, almost amounts to a certainty. But if opium fails as often as it succeeds, which is granting a great deal more than experience will warrant; it ought to be regarded as a remedy of very doubtful efficacy. Decoctions of Guaiacum, China-root, Sarsaparilla, &c. have been highly celebrated as anti-venereal remedies; and their virtues were warranted by men of great reputation. We have now, however, learnt to discriminate between their real and apparent merits; and never depend upon their single efficacy in the cure of lues venerea.

It has been the custom for many years, to give opium either alone, or joined with antimony or decoctions of the woods, to remove some of the troublesome symptoms that often remain, after the venereal virus is destroyed. I have frequently employed it with advantage during the whole course of mercury; but experience does not permit

mit me to depend upon its powers in cases truly venereal.

With regard to the comparative effects of opium and mercury on the constitution, I think it right to observe, that the exhibition of the former was accompanied with as many troublesome attendants as the latter. I have very few charges to produce against mercury; and am fully persuaded that when it is prudently administered the constitution rarely suffers any permanent injury. That very pernicious consequences daily result from its general and unqualified use, is a fact readily admitted; but this must be almost solely attributed to that encouragement of empiricism which disgraces the metropolis.

In attempting to ascertain the powers of any article of the *materia medica*, it is highly necessary to discriminate its proper and direct effects, from those which are only secondary or accidental. It was long ago observed, that opium sometimes proved purgative*; and, from later observations, this appears to arise from an accumulation of this drug in the intestinal canal. The most proper remedy

* See Alston on Opium. Med. Essays, Edinb, vol. v. p. 114.

remedy against such a diarrhoea, is the exhibition of a cathartic. But these facts are far from invalidating the general opinion, that "opium induces costiveness;" for the diarrhoea is a consequence of accumulated feces in the intestines. That opium diminishes all the secretions, except perspiration, hath been hitherto regarded as an authentic maxim. My own experience has uniformly coincided with it. We ought, therefore to have well attested proofs of its diuretic and salivating powers, before any inferences can be deduced of a practical nature, from a proposition so apparently paradoxical.

IX. An

IX. *An Account of the favourable Termination of a Wound of the Stomach.* By Mr. WILLIAM SCOTT, Surgeon of the Navy. Communicated by JAMES CARMICHAEL SMYTH, M.D. Fellow of the College of Physicians, and of the Royal Society; and Physician Extraordinary to the King. Read November 15, 1785.

During the election for Weymouth, in March 1784, Charles Thomas, a seaman, aged twenty-five years, and of a strong and healthy constitution, had the misfortune to receive a thrust with a small sword on the left side of his body. The sword passed in between the second and third of the lower or false ribs, and penetrated into the cavity of the abdomen, in an horizontal direction, to the extent of more than five inches, as appeared afterwards by the mark upon the blade.

I saw him about half an hour after the accident. His whole appearance was then much altered, his countenance being quite collapsed, and covered with a cold sweat; whilst the pulse at his wrist was scarcely perceptible:

ceptible : he had also a constant hiccough, a frequent retching and vomiting of blood, and a considerable discharge of blood and other fluids from the external wound.

From the place and manner in which the sword had entered, and the symptoms that followed, I was led to conjecture, that the stomach was wounded ; and that this was certainly the case I was soon convinced, on examining the fluid discharged by the external wound, and finding in it several small pieces of meat in a soft digested state, together with some particles of barley.

He had complained of thirst, and some barley-water had been given him to drink ; but this had been immediately thrown up after passing the oesophagus. Other mild fluids were now tried, as were likewise a common saline draught, in an effervescent state, and some thebaic tincture, but with no better effect, as they were all instantly rejected tinged with blood.

The retching and action of the stomach continuing to be very violent, and the patient complaining at the same time of a lump or dead weight, as he termed it, in
his

his inside, he was desired to drink some warm water: this was soon thrown up, accompanied with a good deal of barley, in solid grains, with the surface slightly broken, and some pieces of meat in a half-digested state. More water being given to him, it was quickly returned, slightly tinged with blood, but in other respects nearly as pure as when swallowed.

I now proposed, that we should avoid giving any thing farther by the mouth; but as the spasms and hiccough were still very frequent, an emollient clyster was administered, by which a considerable quantity of fœces was discharged. Soon after this another clyster, consisting of twelve ounces of barley-water, and two drachms of thebaic tincture, was thrown up, and the greater part of it retained. Warm fomentations were likewise applied externally; the surface of the wound was loosely dressed; and he was desired to lie as much as possible upon the injured side, with a view to favour the discharge.

On the first of April, the day after the accident, the symptoms were still very unfavourable. His pulse continued to be very low

low and languid, with a great prostration of strength, and a coldness of the extremities. He had had several rigors towards morning, and the spasms were sometimes very violent. He complained of extreme coldness over his whole body; and of a constant gnawing pain about the pit of his stomach, to which part warm fomentations were frequently applied.

A laxative clyster was again administered, which was followed by a copious discharge; soon after this another clyster, consisting of fourteen ounces of veal broth, and two drachms of thebaic tincture, was thrown up, and retained. A similar clyster was repeated in about four hours with the same effect. Flannels dipt in warm milk and water were occasionally applied to his arms and legs, and hot bricks to the soles of his feet. He made a little water twice in the course of the twenty-four hours; this was high-coloured, and deposited no sediment, though kept for a considerable time.

April 2d. He had passed a restless night, and now complained of intense thirst. The hiccough and spasms were less frequent, but he suffered much from a constant burn-

ing pain in the lower part of his stomach. His pulse was small, and beat about 120 strokes in a minute. The fomentations were applied as usual, and six drachms of the *sal. cathart. amar.* were dissolved in some broth, and thrown up into the bowels as a laxative. This produced a considerable discharge of soft slimy fæces, in which were several small pieces of clotted blood enveloped in mucus. After this, in the course of the day, three clysters of broth and thebaic tincture were thrown up and retained. He was desired to use the pulp of an orange, occasionally, to allay his thirst; and to wash his mouth frequently with barley-water acidulated with lemon juice.

April 3d. I was called to him early in the morning, and told he was at the point of death. A clergyman had been sent for at the same time to perform the last offices. The nurse informed me, that while supported in bed to wash his mouth, he had been seized with a violent retching accompanied with convulsions of the chest, but that nothing had been discharged from his stomach, except a small quantity of bloody fluid. When I saw him the spasms still continued; his forehead

head and breast were covered with a cold sweat; his pulse was low, and intermitted so that it could only be felt at intervals; and his strength seemed to be quite exhausted. Warm fomentations were immediately applied to the region of the stomach, and as there was always some of the veal broth kept in readiness, I threw up about fourteen ounces of it, with two drachms of thebaic tincture. The violence of the symptoms was soon moderated, and he appeared very languid, and shewed a disposition to sleep.

When I saw him about four hours afterwards, I was told that he had enjoyed some rest. His pulse was now regular, but small and quick; he was very weak, and just able to inform me that, in washing his mouth, he had accidentally swallowed some of the liquor, and that this had thrown his stomach into violent action. About a pint of the broth was now injected by way of clyster, without any addition. This was likewise retained, and repeated at intervals of five or six hours. He now made water frequently, which, upon standing, deposited

a considerable quantity of sediment, of a light brick or straw colour.

April 4th. The hiccough, retching, and other unfavourable symptoms, were now entirely gone; but he still complained of a fixed pain in his stomach, accompanied with a sensation of heat, and of a soreness of the injured side, extending from the wound towards the middle of the abdomen. He was likewise troubled with thirst; and his pulse was small and about 110. The external wound had now begun to yield a discharge of good matter.

The same mode of treatment was continued, and the symptoms became daily more favourable. The broth was administered in clysters, to the amount of two quarts or five pints a day. The fomentations were continued externally, and his feet and hands were frequently bathed in warm milk and water. He voided his urine regularly, and in about the proportion of three pints in the twenty-four hours, though it sometimes considerably exceeded this quantity, and continued to deposit a great deal of sediment. A little of the *jal. cathart. amar.* was occasionally added to

to the clysters, in order to stimulate and cleanse the intestines; after the fourth day, however, there was scarcely any feculent matter discharged, but only a small quantity of viscid bile.

On the tenth day from the time of his being wounded, he appeared to be very sensibly relieved; his thirst and febrile symptoms were much abated, and his pulse was regular and about 90. As he was in good spirits, and expressed a wish that he might be allowed to swallow something, I procured some calf's foot jelly made lukewarm, of which he ate half a pint without feeling any bad consequence. The only remarkable circumstance that attended the first time of his swallowing any thing, was, that it occasioned frequent eructations and a great discharge of air; but this, according to his own account, produced rather a grateful sensation than otherwise. Next day he was allowed some new milk for breakfast, and some chicken broth for dinner. The nutritious clysters were continued, however, till the sixteenth day, though less frequently than before. From that period, for about a fortnight, he lived

wholly on bread, milk, and light broth. He was then allowed chicken, veal, and other meats of easy digestion. The external wound had been healed for some time, and he recovered his strength very gradually. The only inconvenience he suffered, was from costiveness, and a sense of soreness and stricture which extended from the external wound towards the middle of the abdomen. This was particularly felt after a violent expiration, or any sudden extension of body, when, to use his own words, 'his side was drawn inwards and upwards.' The costiveness was obviated by mild laxatives and gently stimulating clysters, and went off entirely as the intestines recovered their true and natural action. The other complaint, which I apprehend to have originated from an adhesion of the inflamed stomach to the peritonæum, seemed to go off gradually as he recovered his strength; though it was still felt in a certain degree upon stooping, walking quick, or any great exertion of body. When I last heard of him, about two months ago, he enjoyed good health.

This

This case affords a striking instance of the resources and peculiar powers with which nature has endowed the animal machine for its preservation, and for remedying any injury it may sustain. The treatment was such as was necessarily suggested by the symptoms. The wounded stomach was so extremely irritable, that even the mildest fluids increased the violence of its action, and were rejected; for had any substance, whether of medicine or aliment, been admitted, it would most probably have interrupted the union of the divided parts in the first instance, or afterwards by the action necessary for its expulsion through the pylorus.

The liquid contents of the stomach had been chiefly discharged by the external wound, though part of them must no doubt have passed into the cavity of the abdomen, and have been afterwards absorbed; but the wound of the stomach collapsing, the barley and indigested meat were left, which increased the irritation, and occasioned the uneasiness and sense of weight he complained of, and which was in a great

measure removed by the vomiting that took place upon his drinking the warm water.

He felt some relief after the retention of the first clyster, but at that time his strength was so reduced, and the symptoms were altogether so unfavourable, that neither himself, nor those who saw him, entertained any hopes of his recovery. It is indeed surprising what an extreme debility took place immediately after the accident, which could only arise from the nervous influence, and general sympathy with a part so essential to life.

The accident that happened on the fourth morning, induced me to persevere in the mode of treatment we had adopted. Indeed, there was great encouragement to continue it, as the broth clysters were not only retained, but there was a proof of an absorption having taken place by the secretion and evacuation of urine, which then began to be considerable. It is a generally received opinion, that clysters seldom pass beyond the valve of the colon; the contrary has indeed been observed in the volvulus or iliac passion, but in that case the natural action of the intestines is inverted,

verted, and a violent degree of antiperistaltic motion prevails; in this case, however, the broth was thrown up in a very gradual manner, and though, perhaps, it did not pass the valve of the colon in the first instance, I am inclined to believe, from the sudden manner in which the absorption was afterwards carried on, that a gentle degree of antiperistaltic motion took place, whereby it was impelled to the smaller intestines: this will appear less surprising, when we consider, that in the natural action the first impulse is communicated by the stomach, in discharging the digested aliment at the pylorus, and continued through the intestines in determining the feculent matter downwards; but here, the natural action was suspended, the stomach was at rest, and there was no foreign matter to be discharged.

The advantages to be derived from throwing in a supply of fluid, and supporting nature in this manner, in particular cases of obstructed deglutition, gastritis, and other morbid affections of the digestive organs, will readily occur to the attentive practitioner.

X. *A Case of Suppression of Urine, in which the Puncture of the Bladder in the Regio Pubis was performed with success. By Mr. JAMES LUCAS, Surgeon of the General Infirmary at Leeds. Communicated by Mr. JOHN PEARSON, Surgeon of the Lock Hospital. Read December 13th, 1785.*

JUNE the first, 1775, a stout man of about thirty years of age, was admitted into our Infirmary, with a circumscribed tumour in the abdomen, reaching as high as the navel; and an inflamed and painful swelling in the perinæum, where pus appeared to be already formed. He had no great heat, his pulse did not exceed ninety strokes in a minute, his tongue was white and foul, he was costive, had frequent hiccough, breathed with difficulty, and was often faint; he complained of great pain in the urinary passage, and could not make water.

Mr. Walker, the Regimental Surgeon, who had previously attended him, informed me that the man, in attempting to leap over two chairs placed with their backs together, had

had fallen across them; by which the perinæum had been much bruised: that an hæmorrhage from the penis, with great pain, had soon succeeded; and that the following evening his urine was entirely retained.

Mr. Billam, Senior Surgeon of the Infirmary, being consulted, we wished to try the warm bath; but that could not be procured, nor could the catheter be introduced; yet, by a strict antiphlogistic treatment, the symptoms gradually abated, the patient soon voided his urine freely, and appeared perfectly well. The pain, however, returned, and the urine, for some time passed involuntarily, after which it ceased to flow.

The abscess in perinæo was opened; after which, every method usually employed in such cases was had recourse to; but still the disease made a rapid progress, the swelling of the abdomen extending nearly as high as the scrobiculus cordis.

The puncture in the regio pubis was now earnestly recommended, but, for forty-eight hours, was obstinately opposed by the patient.

June

June 3d. Having obtained his consent, I made a puncture in the bladder, about two inches above the edge of the symphysis pubis, with a trocar of a middle size. Three quarts of high coloured urine were evacuated. The canula was secured in the wound by a bandage, with scapulary straps, and its mouth stopped with a cork, that the urine might be drawn off when necessary. A piece of sponge was found useful, to absorb the urine which escaped by the sides of the instrument. Although great relief was obtained by the operation, yet the continuance of alarming symptoms, for some days, rendered a strict attention to the patient's treatment necessary.

June 6th. The canula was found out of the wound; and upon failing in my attempts to replace it, I introduced a short female catheter, which I secured very carefully; directing, at the same time, the patient to lie upon his side.

On the fourth day, the patient began to feel slight but painful efforts to pass urine, both by the wound in perinæo, and by the natural passage.

June

June 20th. The wound in perinæo was so nearly healed as not to admit the smallest piece of catgut, yet some small drops of urine still escaped by that passage.

26th. A small bougie was introduced into the urethra, so near the bladder, that a flow of urine immediately succeeded; but the bougie produced such intolerable and permanent pain, that we depended afterwards on the patient's retaining his urine a longer time in the bladder, and then inviting it to take its usual course, which appears to be a material advantage in puncturing the bladder in the regio pubis.

July 10th. For several days a small quantity of urine had been evacuated by the natural passage, but still more by the almost imperceptible orifice in the perinæum.

20th. The whole of the urine finding a passage through the usual canal, the catheter was withdrawn. In a few days, the wounds in the regio pubis and perinæum were healed, and on the 18th of August, the man was discharged cured.

He returned to the hospital a year after, with a fistula in perinæo, which was in a
a fair

a fair way of being cured, when his ill conduct obliged the trustees to dismiss him.

Both his relapses were apparently owing to intemperance, and are instances how ill those who have been subject to disorders in the urinary passages bear any excess.

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XI. *The History of a Disease in the Head of the Tibia, with an Account of some remarkable Appearances which presented themselves on the Dissection of the Limb.*

By Mr. JOHN PEARSON, Surgeon of the Lock Hospital, and of the Public Dispensary. Read January 23, 1786.

JOHN MALLET, a tall thin man, aged sixty-three years, had for a long time pursued a laborious occupation, and enjoyed a good state of health. In December, 1784, as he was walking, he suddenly experienced a sensation in his left knee, as if something had broken within it. The pain attending this was so acute, that for some minutes he was unable to move from the spot; but afterwards he walked home, though with great difficulty.

Supposing this complaint to be occasioned by a sprain in walking, he remained at home for about fourteen days, contenting himself with the application of vinegar and other simple remedies to his knee; and at the expiration of that time found himself
so

so much relieved, that he attempted to carry a heavy load upon his shoulders.

This attempt, however, occasioned a return of the pain with great violence, and he was obliged to be carried home in a coach. About this time an inconsiderable circumscribed tumor appeared below and on one side of the patella. When this swelling was pressed with the finger, it yielded a little, and there was an evident pulsation within it.

In the month of March, 1785, he was admitted into the Westminster Hospital, under the care of Mr. Watson, who has informed me, that from the first time he examined the disease, he had no doubt of its being an aneurism, although some of the circumstances attending it appeared to be uncommon. There was not the least fulness, pain, or rigidity, in the ham, and the tumor seemed to be supplied from some branch of the popliteal artery, which had determined him to perform the operation for an aneurism, if the patient would have consented. The poor man was at this period in so much torture, that he could not bear to stand upright. The veins of the whole

whole limb were much enlarged, and painful; but by the use of fomentations, cataplasms, and purgatives, the pain subsided, the veins returned to nearly their usual size, and the man found himself so much at ease, and had so well recovered the use of his leg, that he walked about the Ward without pain or fatigue. The tumor was now so far diminished, that he was discharged from the Hospital, at his own request; but with an injunction, at the same time, to return in case he should find himself worse.

Soon after this he applied for relief at the Public Dispensary, in the neighbourhood of which he lived, and came under my care July the 13th. At this period, there was a large prominent tumor at the interior part of the patella, which by passing under the ligament belonging to that bone, was apparently divided into two swellings. The ligament was on the stretch, and the apex of the patella so much elevated, as to press firmly against the skin. The integuments were not discoloured, but the cutaneous veins upon the surface of the tumor had again assumed a varicous appearance. There

was a strong and regular pulsation evident to the eye, and synchronous with that of the radial artery. The pain was unremitting; the whole leg was become oedematous; the foot was cold; his countenance appeared pale and dejected; and his health in general, was much impaired.

The appearance of the limb led me to suppose with Mr. Watson, the disease to be an aneurism, the seat of which I concluded to be in the anterior tibial artery.

At this period of the case, amputation seemed to be the only means from which relief could be expected. The age of the patient, and the impaired state of his health, rendered the event of such an operation extremely precarious; but as he and his friends, though apprized of the danger, were anxious for the removal of the limb, I performed the operation on the 25th of July, with the concurrence of Mr. Watson, who favoured me with his attendance on the occasion.

The amputation was made above the knee, by the double incision. As soon as the great vessels were divided, a considerable quantity of blood streamed out from
that

that part of the crural artery which was below the incision, and the sac immediately became flaccid.

For some days the patient seemed to be going on well; and a considerable portion of the stump was healed by the first intention, when a diarrhœa came on with hectic symptoms, and he died at the end of five weeks after the operation.

I will now mention the state of the amputated limb; the arteries and veins of which we injected in the usual way, on a supposition that the disease was an aneurism.

I began by dissecting the popliteal artery downwards, and excepting the reticulated appearance of the cutaneous veins, and a very considerable enlargement of their diameters, all the blood vessels seemed to be in a natural state. The two principal posterior divisions of the artery were not larger than usual. I then followed the course of the anterior tibial artery, by sawing off a portion of the fibula; but observed nothing preternatural. As the sac before-mentioned was quite turgid, it was opened at its anterior part, and found to contain red in-

jection, coagulated blood, and some matter of a very offensive smell. On removing the whole of these substances, I was greatly surprized to find, that the seat of the disease was in the bone itself. The whole internal substance of the head of the tibia was destroyed, forming an excavation capable of containing more than half a pint of fluid. The whole anterior and posterior portions of this part of the tibia were completely removed; and the fluids had been confined by a sac resembling, externally, thickened periosteum, and lined internally with a substance similar to that found in aneurismal tumors.

The two lateral portions of the tibia remained, but the external cortical plate of bone was so thin as to be transparent. Although the caries was so extensive, no matter had been effused within the capsular ligament, and the joint was free from disease; as were likewise the patella and the fibula.

When it is considered, that the posterior portion of the tumor pressed against the blood vessels in the ham, and that there was no bone there nor at the anterior part of the tibia,

tibia, the cause of the pulsation mentioned above may be easily understood.

As the sac was filled with red injection, there appears to be sufficient reason for presuming, that one or more arteries opened into it. But it may very properly be asked, whether the rupture of an artery gave origin to the disease; or whether the erosion of blood-vessels was only a consequence of an original affection within the bone?

This case affords a striking instance of the difficulties that sometimes occur in our attempts to discriminate diseases. We have seen, that the diagnostic symptoms of an aneurism were present, and yet on examination, the disease proved to be an extensive caries within the bone.

XII. *A Case of Hernia Femoralis, with practical Observations.* By Mr. HENRY WATSON, F.R.S. Senior Surgeon of the Westminster Hospital. Read February 20, 1786.

To be well acquainted with the anatomy of the parts that may, in any disease, require chirurgical assistance, must always greatly facilitate the treatment of that disease.

On this account, much pains have been taken to establish good ideas of the parts concerned in every species of hernia or rupture; a disease but too common in the human body; and too often bringing a patient into the most critical situation.

Though the anatomy of the parts is now well understood, and rules for the general treatment of the disease have been judiciously and pretty fully laid down by our best writers on surgery; nevertheless, in some cases of hernia, wherein an operation may be absolutely necessary, such irregularities and unforeseen circumstances occur, that it
may

may be impossible to say beforehand how we ought to proceed. Therefore it is, that this operation can scarcely ever be performed twice after exactly the same manner.

Much will depend on the judgment, sagacity, and dexterity of the operator, to relieve the strangulation; to set free all impediments; to reduce the intestine; so that being confined to no rule, the surgeon will be left to his own discretion, and must act as he finds occasion in every unusually complicated hernia.

A patient seldom submits to the knife willingly; perhaps less willingly in the case of a rupture, than in a disease that may put on a much more formidable aspect.

The delay occasioned by this reluctance in the patient to submit to the operation, often renders the success of it highly precarious; but as we have instance upon record of unexpected success in very unpromising and seemingly desperate cases, we should from hence learn never to abandon a patient, as we know not what the combined powers of art and nature may accomplish.

C A S E.

MARY COURT, aged forty-nine years, a tall, thin, and healthy woman, the mother of several children, had been troubled for some years with a Femoral Hernia; which, however, occasioned no particular inconvenience till about the 11th of September, 1784, about four in the afternoon, when she was seized with violent sickness; and during her efforts to vomit, she felt the tumor in her groin gradually enlarging to a considerable degree. The sickness returned every half hour; and she had no stools.

In this situation her husband, who was Dr. Dargent's coachman, having desired his master, the Doctor, to see her: he, with his usual humanity, paid her every necessary attention, but to no purpose; the vomiting continuing from Saturday to the Wednesday following; nor, by any means, could a stool be procured.

The tumor remained indolent until the Tuesday evening, when it became very painful. This circumstance obliged her to communicate to the Doctor, what she had hitherto

hitherto kept secret, that she had such a swelling.

On inspecting the part, it was evident that medicine could be of little service, without the assistance of surgery. The Doctor therefore sent to request that I would visit her.

I found the poor woman continually sick, throwing up every thing that was given her; together with much bile, and some fæces.

The tumor appeared about the size of a swan's egg, was a little springy; the skin not discoloured, though much upon the stretch; her pulse low, but regular.

I now informed the patient of the great danger she was exposed to; and of the impossibility of relieving her, except by an operation. She heard this sentence with great composure, and soon determined to comply.

She was sent to the hospital about noon on the Wednesday, where I saw her again in about half an hour; and finding her still excessively sick, resolved to perform the operation immediately. When I had opened
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the sac freely, it appeared to contain a considerable portion of omentum, surrounding about five inches of the ilium. The omentum was thickened and fleshy, and adhered to the intestine so much, that I was obliged to dissect it off very carefully, before I could discover the state of the latter.

The intestine, which was swelled and inflamed, presented to us a dark coloured oval space, of about an inch in length; and at that part as it seemed affected through its whole substance, there could be no doubt of its sloughing away.

Having freed every adhesion, and divided Poupart's ligament, I gradually and easily returned the intestine, in such a manner as to keep the livid part opposite the external wound, in order that we might have an eye to its progress. The omentum having been previously tied, was cut off.

The vomiting ceased as soon as the operation was finished.

The patient was then put into bed. A clyster was administered; and she was allowed to drink freely of white wine whey.

She

She passed a good night, but had no stool till the next day, when a natural evacuation made her very happy.

On the third or fourth day, when the livid part separated, after the removal of the dressings, a large bilious stool came through the wound; and fæces continued to pass that way, till the ninth or tenth day from the operation, when they resumed their natural course.

She was all along confined to a very strict regimen; her diet consisting chiefly of spoon meats, with milk and water for common drink; and she took an anodyne every night, with half a pint of warm whey.

The wound filled up, and was cicatrized completely by the twenty-seventh of October; when she took leave of the Hospital, a little enfeebled by long confinement, but otherwise in good health.

After she had been at home a few weeks, and had recovered strength, she perceived a pimple on the skin of the cicatrix, which broke, and discharged a large quantity of clear lymph from a very small opening.

The

The local application of a compress well moistened with brandy, in a few days put a stop to this troublesome discharge, after which she remained free from every inconvenience, grew strong, and enjoyed a perfect state of health.

PRACTICAL OBSERVATIONS,

In the preceding case the aperture in the intestine united with the *peritonæum*, so as to leave a free passage through the canal; but when from the extent of the mortification, or from any other circumstance, the hope of such an union is precluded, the usual practice would be, as we are advised, to make an artificial *anus*. But although that expedient may prolong, yet it will certainly take much from the comforts of life. Any other mode, therefore, by which the passage through the intestine can be preserved entire, must be highly preferable.

With a view to obtain this very desirable end, I shall propose a method that is certainly very practicable; and under many circumstances

circumstances, apparently, adequate to the intention; as in cases where the intestine has been cut through and through; or where the intestine has been divided through its whole circumference, by a lacerated wound; but more particularly in the Hernia with a mortified gut.

Let us suppose the hernial sac to have been freely opened, and that we discover the intestine, in part completely mortified all round. The first thing will be, by a double ligature, to tie the mesentery and prevent an hæmorrhage; next to cut away the whole mortified portion of the intestine; then, being previously provided with a strong cylinder of isinglass *, of a proper length

* We make our cylinder readily enough, by filling a tin tube with isinglass melted in as little water as possible, so as to make a very firm, strong jelly. The inside of this tin tube must be well oiled before it is filled with the warm jelly, which must remain therein till quite cold. It will then easily part from the mould, and be fit for immediate use.

Isinglass appears to me the best adapted substance for this purpose. It is perfectly innocent, easily reduced to a jelly of any consistence, and in that state may be moulded into

length and thickness, we are to draw the two ends of the divided intestine over the cylinder, and bringing them into close contact, with a glover's needle and thread, sew them together, beginning at any one point, and going round till we have completed the circle. All obstacles being removed, we are now to return the intestine within the abdomen, and the two ends of the thread having been left of a proper length, are to be placed conveniently on the outside of the wound.

The re-union of the intestine, we may presume, will take place after a few days, when by gently pulling either end of the thread, the whole may be easily brought away.

The

into any shape or form. It is again easily dissolved by warmth and moisture, into a soft, mucilaginous fluid, and will be a defence to the wounded part. I should prefer a solid cylinder to a hollow one, which, though it might easily enough be contrived, is not so fit for the purpose. The intestine will want a little support for a time, more than the weak, hollow cylinder can afford; and as to any advantage in letting the fæces slip through it, without offending the wound, it can afford none, as its form will be so quickly altered by dissolution.

The external wound will require no more than due attention, with a common treatment.

I have now ventured to recommend to the consideration of surgeons what may appear to be a new mode of practice, or a new operation in surgery. I think it safe; and am certain it is justifiable.

The experiment has been made upon a large dog, who recovering perfectly from the operation, seemed not to suffer any inconvenience from having had his gut shortened four or five inches. Several of the students were witnesses both to the operation and cure; during which time the dog was confined wholly to a bread and milk diet, in a moderate quantity, at stated intervals: he retained his food well; nor did digestion, or absorption appear to be injuriously affected; for on his recovery he betrayed no weakness of the animal functions: on the contrary, he appeared so brisk and lively, that a stranger to the transaction could not well suppose he had ever been the subject of such an experiment.

Thus

Thus convinced, of the safety and great advantage of such an operation, I shall never hesitate to put it in practice upon the human body. Should any of my brethren, convinced of its propriety, be induced to adopt it, the result of their success would be an agreeable communication to me, and an useful information to the public,

XIII. *An*

XIII. *A Remarkable Case of Abstinence.* By
ROBERT WILLAN, M.D. Read De-
cember 12, 1786.

A YOUNG man of a studious and melancholic turn of mind, was affected, during the years 1784-5, with symptoms of indigestion, particularly with sharp pains in the stomach, and a constant sensation of heat internally.

He thought proper, in the year 1786, to begin a severe course of abstinence, hoping, as he informed me, thus to relieve those disagreeable complaints; but, from other circumstances, it appears that some mistaken notions in religion principally induced him to form this resolution.

In consequence of it he suddenly withdrew from business, and the society of his friends, took lodgings in an obscure street, and entered upon his plan; which was, to abstain from all solid food, and only to moisten his mouth, from time to time, with water slightly flavoured with juice of oranges. After three days of abstinence, the craving, or desire for food,

which was at first very troublesome, left him entirely: he then pursued his studies and meditations without farther inconvenience. He used no manner of exercise; and slept very little, spending most of the night in writing. The quantity of water used each day was from half a pint to a pint. Two oranges served him for a week: I inquired whether he chewed the pulp; but found that he had only squeezed the juice into the water to give it an agreeable flavour.

He made urine in moderate quantity, always clear and without sediment. He had a natural stool on the 2d day of this course, and again on the 40th day, but after that no more, though he persisted twenty days longer without any variation in his plan. During the last ten days of it, his strength failed very rapidly: when he found himself unable to rise from his bed, he began to be somewhat alarmed. Hitherto he had flattered himself that his support was preternatural; and indulged his imagination with the prospect of some great event, which he expected would follow this extraordinary abstinence. But his delusion at length vanished:

vanished: he found himself gradually wasting and sinking to the grave.

His friends, about the same time, having discovered his retreat, prevailed upon him to admit the visits of a respectable clergyman in the neighbourhood. This gentleman, with great address and judgment, pointed out the fallacy of his visionary ideas; and finally obtained his assent to any plan that might be conducive to his recovery. I was therefore called on to prescribe the mode of treatment, and accordingly visited him, on the 61st day of his fast, March 23d, 1786.

He was at that time emaciated to a most astonishing degree, the muscles of the face being entirely shrunk; his cheek-bones and processus zygomatici stood prominent and distinct, affording a most ghastly appearance: his abdomen was concave, the umbilicus seeming to be retracted, from the collapsed state of the intestines; the skin and abdominal muscles were shrunk below the brim of the pelvis, and under the ribs, leaving the space vacant betwixt the ossa ilia, the lower ribs, and spine. His limbs

were reduced to the greatest possible degree of tenuity; the ossa ischia, the internal trochanters, and all the processes of the bones being easily distinguishable.

His whole appearance suggested the idea of a skeleton, prepared by drying the muscles upon it, in their natural situations.

His eyes were not deficient in lustre, and his voice remained clear and sound, notwithstanding his general weakness.

I found him labouring under great imbecility of mind. He had undertaken, during this retirement, to copy the bible in short-hand; and this work he had executed very neatly as far as the 2d book of Kings, with short arguments prefixed to each chapter. He shewed me several improvements he had made in that kind of writing, particularly in the abbreviations. He had also with great diligence put together parallel passages, and traced particular subjects through the whole scriptures, noting their application in different instances, and adding observations of his own. The clergyman, who examined this performance, told me he had proceeded regularly at first, with

with some ingenuity and judgment; but that afterwards he became obscure, and seemed to be lost in endless confusion.

March 23d. He was directed to drink a pint of barley water and two cups of panada, which agreed very well with his stomach. He had a little feverish heat in the first part of the night, but slept better than usual.

March 24th. He had this day some mutton tea, the taste of which was most delicious to him, and particularly provoked his appetite. His pulse was 72, small and temperate.

On the 25th, He took a pint of milk for breakfast; a pint of mutton-broth boiled with barley, for dinner; and as much rice-milk for supper, at his own request. He had considerable cravings for food all that day, and would have taken much more than his allowance.

26th. In the morning he drank tea, and ate a great quantity of bread and butter, which he got off from the table in the nurse's absence. Some time after he became sick, and vomited once or twice without

much straining. About noon he had a figured natural stool, and presently after two or three loose motions. His urine was of a natural colour, with a light enæorema in the middle. His skin always remained dry,

I saw him in the evening, apparently much better: his pulse was at 90, and firmer. He was sitting up in an easy chair, as he found himself somewhat stronger. He spoke now of his complaints like an hypochondriac; thought his eyes and tongue were diminished and wasted away. He said, the sensation of heat in the stomach had never left him, notwithstanding his spare diet. He talked however sensibly enough, and indeed with some acuteness on general subjects; but was soon fatigued by conversation.

27th. He took a little light bread pudding at dinner, and had two eggs for supper: with the taste of these he was particularly pleased. Every thing agreed well with him; he rested well, was more cheerful, and often expressed to me the satisfaction he felt in being freed from his strange delusion.

On

On the 28th, He seemed recovering apace; his cheeks were more full; his limbs had so far regained their strength, that he could easily walk across the room. He did not sleep much in the foregoing night, nor had had a stool during the day. He said the pain of his stomach had left him, which circumstance contributed much to enliven his spirits.

On the 29th, I found the scene entirely changed: he began to lose his recollection in the preceding evening; and before midnight became quite frantic, and unmanageable. His pulse was increased in frequency, with considerable heat on the skin, and tremors. He continued raving and talking very incoherently, as he had done during the night. A strong purgative draught, and two clysters administered in the course of the day, produced but little evacuation.

He remained nearly in the same state of mind as above-mentioned, scarce ever sleeping, and taking very little nourishment, till the 2d of April, when a considerable quantity of loose feculent matter was brought away by a clyster. Soon after he

became fullen, and took no notice of what passed about him.

He was removed at this time into the country, so that I did not visit him again till the 6th of April.

He appeared then emaciated to a greater degree, if possible, than when I at first saw him. His pulse was small and feeble, beating 120 strokes in a minute.

April 7 and 8, He took whatever nourishment was offered to him; knew those around him, and spoke sensibly, but faintly.

On the 9th, In the morning, he died, quite exhausted.

The duration of this young gentleman's fast is, I believe, longer than any recorded in the annals of Physic. He could scarcely have been supported through it, except from an enthusiastic turn of mind, nearly bordering on insanity; the effect of which, in fortifying the body against cold and hunger, is well known to Physicians.

In the *Memoires de l'Academie des Sciences*, 1769, we have the case of a madman recorded, who lived 47 days without taking any thing but a pint and a half of
water

water per day. He stood constantly in the same position for 38 days of that time; but during the remaining eight, he was obliged to lie down through weakness; and then took nothing, refusing even water.

When he first began to eat again, he recovered his reason for a time, but soon relapsed.

In the Edinburgh Medical Essays, vol. vi. a case is related of a young girl, who fasted, at one time, 34 days, at another time, 54 days, from a spasm, or some obstruction of the œsophagus.

M. Pouteau, in his *Œuvres Posthumes*, mentions a young lady, thirteen years old, who, being unable to keep solid aliment on her stomach, subsisted eighteen months on syrup of capillaire mixed with water, and in that time grew two inches and a half.

Several other remarkable instances of abstinence may be found in different works, particularly in Stalpart Vander Wiel's *Observ. Rar.* *; in the Philosophical Transactions †, and in the Memoirs of the Literary and Philosophical Society of Manchester ‡: but few conclusions of importance,

* Cent. post. pars pr. Obs. xv.

† Vol. lxxvii.

‡ Vol. ii. p. 467.

portance, with regard to medical practice, can be deduced from such extraordinary cases. It is not, however, amiss to have ascertained for what length of time the human constitution is able to support itself under abstinence.

M. Pouteau, in the work just now mentioned, has made one observation on this subject which deserves attention. He thinks the virus of cancer may be eradicated by a water-diet, and proposes a plan for that purpose, in which the patient must persist for two months. He assures us, that health and strength are afterwards recoverable by a proper regimen. In one person a complete cure was made by this plan. In others who could not be prevailed upon to follow it more than one month, he says, the disease appeared to be very much mitigated.

XIV. *Case*

**XIV. Case of a Dropsy of the Ovarium; with
Remarks on the Paracentesis of the Abdo-
men. By Mr. EDWARD FORD, Sur-
geon of the Westminster General Dispensary.
Read July 24, 1787.**

March 31st. 1778, I was desired by Dr. Bagge, at that time physician to the Westminster General Dispensary, to perform the operation of the paracentesis upon Ann Mason, of Clarges-street, May-fair. On enquiry, I found that she had been delivered of a living child a month before. She was twenty-eight years of age, a temperate woman, had always enjoyed a good state of health till lately, and had been married about twelve months. During the course of her pregnancy, she had been sensible of an increase of bulk, far greater than could be accounted for from uterine gestation. Her delivery had produced little change in her size, and she was, at this time of an enormous magnitude. With regard to the cause of her complaint, no very satisfactory information

information could be obtained. It was supposed by herself and friends to originate from a fall which she had received. The accident however was slight, nor would it be worth mentioning here, did not repeated experience shew, that very trivial injuries to many parts of the human frame, occasion dreadful calamities, where there is a disposition to scrophula. Her general state of health did not seem to have suffered from her disease; her complexion was florid and healthy; she was quite recovered from the effects of parturition; but the difficulty of breathing was so excessive, as to make her very desirous of that temporary relief, which the operation of tapping affords.

This operation was performed, for the first time, on the 31st of March, 1778, and 96 pints of water (wine measure) were taken from her at this time. She experienced great benefit from the evacuation, and soon recovered her strength. But in October following she was again sensible of distention in the abdomen, which reduced her to the necessity of submitting on the 8th of December to another operation.

To

To avoid unnecessary repetitions, I have subjoined a table which will, at one view, show how often she was tapped, and the quantity of water discharged at each time. The fluid was always measured with great accuracy, and generally in the presence of the physicians of the Dispensary who attended her. Other gentlemen of the faculty occasionally visited her; among these was the late Dr. William Hunter, who was particularly attentive to the singular circumstance of so quick an accumulation of fluid, as the following table exhibits.

T A B L E.

		Pints.	Pints.
1778	March 31	95	
	Dec. 8	66	— 161
1779	April 24	64	
	August 20	76	
	Dec. 9	64	— 204
1780	January 26	68	
	March 24	84	
	May 18	76	
	July 9	82	
	August 29	81	
	October 15	79	
	Nov. 26	82	— 552

1781 Jan.

		Pints.	Pints.
1781	January 4	87	
	Feb. 10	71	
	March 14	58	
	April 17	70	
	May 17	76	
	June 14	78	
	July 11	66	
	August 8	64	
	Sept. 1	62	
	— 22	64	
	Oct. 17	70	
	Nov. 11	76	
	Dec. 7	60	
	— 26	62	964

1782	January 16	66	
	Feb. 7	64	
	— 28	63	
	March 20	63	
	April 7	63	
	— 25	64	
	May 15	63	
	June 4	58	
	— 26	62	566

1782	July 14	62	
	August 1	66	
	— 19	60½	
	Sept. 9	61	
	— 27	51	
	Oct. 6	39	339½

Total 2786½ Pints.

From

From this account it appears, that she was tapped forty-one times ; that at these repeated operations she lost 2786 pints of water ; that in the year 1780 she was tapped seven times ; that in the year 1781 the accumulation of water was so quick that she was tapped fourteen times, and 964 pints were discharged in the course of that year, which upon an average, will make a secretion daily of more than two pints, six ounces ; that for the first six months of the year 1782, she was tapped nine times, and 566 pints of water were discharged, which, on an average, will be rather more than three pints accumulated daily ; and that in the last three months of her life, she was tapped six times, and 339 pints discharged, which will make upwards of three pints and three ounces secreted daily.

There are upon record many instances of this operation being more frequently repeated than in the present case ; of larger quantities of fluid discharged, and of life being prolonged with comfort even to longevity ; but I believe there is no case which exceeds the present for a quick accumulation of fluid.

It

It was this circumstance that led me to consider, whether it was not possible, by measuring the quantity of fluids which she took, and the quantity of urine made in the interval of an operation, to ascertain whether a very considerable inhalation had not taken place on the surface of the body. In order to proceed with accuracy, it was necessary to interest the unfortunate object of this paper in the trial, and she, who was ready to suppose, that an exact attention to the ingesta and egesta would be conducive to recovery, faithfully obeyed the directions given her.

The experiment was begun on August 1st, 1782, on which day she had been tapped, and was continued to the 19th of the same month, when the operation was again repeated. It was conducted under the inspection of Dr. Simmons, who then prescribed for her.

The quantity of fluids she drank was precisely measured, it consisted chiefly of tea, and half a pint of porter each day. The solids she eat were usually weighed, and the urine was also measured with great exactness.

TABLE.

T A B L E.

Quantity of Fluids taken. || Quantity of Urine discharged

August 1	28 ounces.	August 1	14 ounces.
2	44	2	12
3	28	3	8
4	26	4 to 7	48
5	30	to 9	36
6	28	to 13	56
7	28	16	36
8	32	17	16
9	32	18	16
10	32		
Baum tea } for 3 days }	48		242
11	32		
12	32		
13	32		
Baum tea	24		
14	32		
Baum tea	24		
15	40		
16	40		
17	40		
18	40		
	692		

In this account I have not mentioned the solid aliment she took, as it was not considerable in quantity; but if it may be supposed to have furnished any part

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of the fluid secreted into the diseased ovary; on the other hand I would state, that she had during this period profuse sweats, and copious loose evacuations by stool. It appears, that during eighteen days she drank 692 ounces, or 43 pints of fluid; and that she discharged by urine, and by paracentesis, 1298 ounces, or 81 pints, which leaves a balance of 606 ounces, or 37 pints. The result of this is, I think, decisive, and proves, unquestionably, that the body must have inhaled in that time a considerable quantity of fluid, which contributed to the accumulation of water in the ovarium.

During the course of the disease, no circumstance occurred materially differing from the usual progress of dropsies of the ovarium. From time to time it was necessary to vary the place of puncture, as large indurated substances were plainly perceived to exist in different parts of the cavity.

Use had not reconciled her to the operation, or abated its terrors; hence she frequently deferred it, till the distention of the cyst seemed to produce inflammation on its internal surface; and in consequence a
fever

fever ensued. She recovered slowly after the operation, and her intervals of health became every time shorter.

She died on the 16th of October, 1782, soon after her last tapping; and although a few days only had elapsed since the operation, the collection of water was found to be considerable when the body was opened.

The disease proved to be a dropsy of the right ovarium; the cyst was very large, extending upwards to the epigastric region, and adhering universally to the parietes of the abdomen. To the internal surface, which was covered with an exudation of matter, were attached several large substances of the size of an ostrich's egg, others not exceeding the bigness of a walnut; some resembling hydatids; and others of a firmer consistence, that seemed to have had a tendency to suppurate.

The uterus and left ovary were perfectly found. The other contents of the abdomen, as well as the thoracic viscera, though compressed and thrown out of their natural situation, had not suffered any morbid alteration.

It will not, I hope, be thought extraneous to the subject of this paper, to add a few remarks on the paracentesis of the abdomen, founded on my own experience.

This operation, though generally performed with great benefit to the patient, is by no means to be considered as free from danger: for exclusively of the debilitated state of health under which dropfical patients usually labour, and which exposes them to a certain degree of danger, there are hazards attendant upon the operation. In a dropfy of the ovarium (and this species of dropfy is more frequent in women than ascites) it may happen, that from the thickness of the cyst, or the intervention of some of those large substances which are found on its internal surface, or from the water being contained in different sacs, the benefit derived from tapping may be very partial. It is also to be remarked, that after this operation, a fever sometimes comes on of a very fatal tendency: and the appearances, upon dissection, have been found similar to those of the puerperal fever.

The fluid contained in this species of dropfy, is sometimes so thick and glutinous, that it cannot pass through a small trocar;
in

in these cases, therefore, a large trocar should always be used.

Chirurgical writers, justly apprehensive for the safety of the patient, have accurately pointed out the part most convenient for the puncture. Their rules cannot however be attended to in the encysted dropsy; the cyst is of such various thickness, that whoever should in these cases invariably make his wound three inches obliquely below the navel, would sometimes fail of relieving his patient: wherever the fluctuation is most evident, the puncture must occasionally be made; and on the contrary, it should be very cautiously attempted on any part where the fluctuation is indistinct, from the thickness of the cyst and integuments.

With the most laudable views for the preservation of life, attempts have at different times been made for a radical cure of this complaint; large openings have been made in the cyst, and expectations have been formed that a more permanent relief would have been obtained than a mere suspension of the disease: these attempts have in some instances proved fatal; in others, a

fistulous sore has remained, and the patient has seemed to gain an advantage more satisfactory than a mere puncture could have afforded.

To the reasons alledged by the late Dr. William Hunter * against this operation, and which seem to be founded on that great anatomist's frequent observation of the internal surface of the cyst, and on the difficulty of ascertaining where the cyst adheres to the peritonæum, let me add an account of a case which I lately attended with Mr. Simmons of Rathbone Place.

A woman in Tottenham-court-road, who had been tapped several times for a dropsy, which proved to be that of the ovary, after every operation, recovered with difficulty. In the part where the puncture was made a slight inflammation always came on, attended with fever; and a circumscribed hardness remained, so that she could not be tapped again near the same place.

I thought it probable, that upon dissection of the body it would appear, that the cyst had formed adhesions where the punctures had been made, and that consequently an incision might have been made without risk of a wound penetrating into the
cavity

* Med. Obs. and Inq. Vol. II. page 41.

cavity of the abdomen; but dissection proved that this idea was not well founded. She died after the sixth tapping; and though the cyst had slight adherence in some places, it had no attachment to the peritonæum, at the part where the paracentesis had been made.

Amongst the dangers that attend this operation, I think it right to mention one, which, though known to practitioners, is not much noticed by writers—this is an hæmorrhage ensuing from a wound of the epigastric artery, or some of its branches. This accident has happened to me; and to my knowledge has occurred to other surgeons. It is a circumstance very distressing; the vis vitæ in dropical patients being seldom so strong as to enable them to sustain with safety a profuse hæmorrhage; and the difficulty of restraining it being considerable. I once succeeded in a case where the effusion was very large, by holding the integuments and muscles between my fingers and thumb, and causing them to be so held for six hours, till the bleeding was stopped.

In the usual place of tapping, no care of the surgeon can insure him absolutely from

this accident, though it must be confessed, that it occurs so rarely, that it need only be mentioned as a possible occurrence*.

In tapping for the hydrops ovarii, it is not uncommon to find the water run bloody when the cyst is nearly exhausted: this circumstance, which at first view appears alarming, may not be dangerous; it seems to be occasioned by the friction of the end

* When this paper was read to the Society, Mr. Pearson, Surgeon of the Lock Hospital, recollected an instance of a similar accident; of which he has since favoured them with the following account.—“ A man who had long been afflicted with ascites, was advised by his physician to undergo the operation of the paracentesis. The operation was performed by a surgeon, whose abilities and experience had rendered him eminent; and about three gallons of water nearly transparent were evacuated. Immediately on withdrawing the canula, blood of a florid colour issued in a full stream from the orifice, and was caught in a basin, to the quantity of about two pounds. The hæmorrhage abated spontaneously; a little lint and sticking plaster were applied to the wound made by the trocar; the belly was rolled as usual, and the patient went to bed. The man died in about twelve hours after the operation. When the body was opened, a large quantity of coagulated blood was found in the cavity of the abdomen; and on examining the state of the epigastric artery, I found that it had been punctured, but not divided, by the point of the trocar.”

of the canula with those diseased masses which are generally found on the internal surface of the cyst.

Another accident which may ensue from the Paracentesis, is a wound of the spleen; to an instance of which I was once a witness. The patient died, and upon opening his body there was seen a large effusion of blood into the cavity of the abdomen, from a wound of the spleen, evidently made by the triangular point of the trocar. The spleen, in this subject, was uncommonly large, weighing upwards of four pounds.

XV. *Observa-*

XV. *Observations on the Effects of Camphor, applied externally, in some Cases of Retention of Urine.* By Mr. JOHN LATHAM, F.R.S. Surgeon at Dartford. Communicated by Dr. GRAY. Read Sept. 4, 1787.

SOME years ago I was sent for to visit a gentleman, who was already attended by the late Dr. Green, Physician at Greenwich. The patient was upwards of 70 years of age, thin, and of a delicate constitution, but tolerably healthy; he had been temperate in his diet, and used moderate daily exercise, chiefly on horseback. On the 10th of November (four days before I was called to him) he had been caught in the rain while on horseback; and the following day had found some uneasiness in making water, but which was not much greater than he had before frequently experienced, as he had not for some years been able to retain his urine, for any considerable length of time, without inconvenience.

On the 14th, a total Retention of Urine took place, attended with violent and painful

ful efforts to void it, with a quick pulse, and some degree of thirst. It was thought proper to bleed him; after which, his bowels were emptied with Ol. Ricini, and he was put into a Semicupium. These means not producing the desired effect, the catheter was introduced, by which a large quantity of urine was drawn off.

He afterwards took manna, with oil of almonds, every four hours.

On the 15th, the catheter was again introduced; which operation was repeated, every day, once or twice, until the 27th. He was then ordered to take the bark; and a cloth dipped in cold water was applied to the pubis. No relief was by these means obtained; on the contrary, the irritation to make water became more violent; and when the catheter was introduced, not more than half the usual quantity of urine was evacuated: the pulse also was much quicker, and there was every other sign of increased inflammation, so that it was not without the greatest difficulty that I now could introduce the catheter. It was deemed necessary, therefore, to resume the first plan
of

of treatment, viz. bleeding; evacuating the contents of the bowels with Oleum Ricini, &c.

After the second bleeding, he was brought nearly to the state he was in before he took the bark.

Dr. Green then prescribed musk, in large doses, having, as he said, found it succeed in similar cases, when other remedies had failed: but it had no effect whatever on our patient.

At one of our meetings, I mentioned to the Doctor, that I had somewhere read an account of the good effect of camphor, in Stranguries, when applied externally. I had, besides, observed in a patient labouring under nephritic complaints, that a strong Camphor Liniment, rubbed on his thighs, though for another purpose, had produced a more copious flow of urine than usual; and I recollected the circumstance of camphor being generally employed in practice to counteract the irritation of Cantharides on the urinary organs. I thought, from these considerations, that it might possibly be of some use in this case.

As

As Dr. Green had no objection to a trial of this remedy, a liniment was prepared of Oil of Almonds, with as much camphor as could be dissolved in it.

We ordered the liniment to be rubbed every four hours on the inside of the thighs, from the groin to the knees, and likewise about the region of the Pubis. On the second application of it, the patient voided about half an ounce of Urine, and continued to void it, in larger quantities, from time to time, till the 22d.

The use of the catheter (which had been introduced no less than 67 times) was now no longer necessary; and by proper remedies, and a restorative diet, the patient recovered his usual strength; nor had he any return of this complaint afterwards.

MARY CROSS, of the parish of Sutton, a poor woman, of a delicate constitution, was seized with a Retention of Urine, in consequence of exposure to cold. When first called to her, I took away some blood, ordered a purgative medicine to be given,
and

and cold water to be applied to the region of the pubis.

No relief being obtained by these means, I drew off, by the catheter, a large quantity of water, and then prescribed a clyster, containing sixty drops of Tinct. Thebaica, and half a drachm of camphor, which procured ease and rest, but had no farther effect on her complaint. I therefore made use of the camphorated liniment, as in the former case; and in a short time the patient voided some urine: after which, I had only occasion to make use of the catheter twice, her health being soon re-established.

About a year after, she had a return of the same complaint, when bleeding and laxatives were again employed without effect.

The camphorated liniment, which I now entirely relied upon, succeeded as well as before: and she has remained in good health for the last four or five years.

Retention of Urine is not unfrequent after difficult labours, and in such cases the use of a catheter, with an antiphlogistic regimen, generally affords relief. In two instances,

stances, however, of this sort, where the Retention continued longer than usual, I have made use of camphor externally, with the desired success.

XVI. *Case of an Injury of the internal Table of the Scull, successfully treated.* By Mr. CHARLES BRANDON TRYE, Surgeon of the Gloucester Infirmary. Communicated by Mr. HENRY WATSON, F.R.S. Read September 18, 1787.

JOHN BRACEY, aged twenty-five years, on the fifth of July, 1786, received a blow from a skittle bowl on the most anterior part of the right side of the head, in consequence of which he fell to the ground, and was for some seconds deprived of his senses. He was extremely giddy after the accident, and a violent head-ach came on, which continued without being relieved either by bleeding or purging (both of which remedies were had recourse to) till the ninth day, when he was sent to the Gloucester Infirmary.

His head was shaved, but there was no wound, nor any appearance of contusion on the scalp. There seemed, however, to be a little fulness and puffiness of the integuments

ments lying over part of the superior and anterior edge of the right temporal muscle; and a slight degree of soreness was perceived by the patient, when that part was pressed upon. His pulse was natural, he was not sick, and he had no symptoms of pressure on the brain, if we except the head-ach and giddiness, which had never left him since the accident.

I made an incision in that part where the puffiness was observable. The pericranium was found adhering firmly to the bone, and upon laying bare the latter, I could discover in it no appearance of fracture or fissure, nor any alteration from its natural state.

He received no benefit from this operation, nor from any other means that were employed for his relief, but remained in violent and constant pain during the space of five weeks.

By this time the integuments of the cranium were become uniformly thickened to a considerable extent; that is to say, over the whole right bregma, over part of the os frontis, and even to the mastoid process of the temporal bone. There was no

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particular elevation of the integuments, but the scalp pitted a little under strong pressure, and there was a slight sensation of soreness, when it was touched.

Although the state of the scalp did not indicate either a fractured bone or a deep seated suppuration, and though the condition of it was different from what I had ever seen, in consequence of violence done to the head, yet I judged it necessary to attempt some decisive measure for the relief of the patient, who was nearly worn out with irritation, pain, and want of rest.

He was become extremely emaciated, and his appetite had for some time almost totally left him.

From having frequently observed, that the thickening which takes place in consequence of chronic inflammation in membranous, tendinous, and ligamentous parts, is attended with constant and severe pain, I was induced to think, that in the present case, the diseased state of the scalp and pericranium, independently of any mischief within the skull, was sufficient to account for the patient's sufferings.

From

From these considerations I was induced, the twenty-second of July, to lay bare a considerable portion of the os bregmatis, and a part of the os frontis. The pericranium was at least half an inch in thickness, and assumed the same kind of appearance which a diseased and thickened periosteum on the tibia commonly puts on.

It adhered every where to the cranium, though not in the manner in which it adheres in a natural state. Possibly my idea may be comprehended, when I say, that it was sticking to the bone by cohesion, and not by being attached by blood vessels. The bone was scabrous, and did not bleed at all on the separating of the pericranium.

The temporal muscle was changed in its appearance, and its substance was in part similar to that of the diseased pericranium, being become, as it were, a pale, leathery mass, without the appearance of a fibrous texture.

It should have been recorded above, that the patient for some time since the accident, had experienced a good deal of uneasiness and

difficulty in depressing his lower jaw, and opening his mouth.

I cut away a large part of the diseased muscle, and dissected off a good deal of the thickened pericranium from the scalp, which I preserved, and again laid down upon the bone.

He was a good deal relieved by this operation; and as there were no decisive symptoms of pressure on, or other mischief in, the encephalon, I proceeded no farther at this time. Eight days afterwards, the pain having returned, and the pericranium being very much thickened towards the occiput, I laid the bone bare posteriorly, still farther, and dissected away the diseased pericranium from the scalp, as I had done before. His pain was again relieved. I scraped the bone, as indeed I had done in the last operation, and it was in the same condition in which it appeared to be on the former examination. No blood either time followed the rugin.

It was evident that the external table was dead to a considerable extent, and therefore that a large exfoliation of it must take place, if the man should live a sufficient time.

time. To forward that exfoliation, I made several perforations in the cranium with the terebra of the trephine. I repeated this process from time to time, during the space of fifteen or sixteen days; in which time some granulations had sprouted thro' some of the perforations, and likewise thro' one part of the coronal suture, which suture I had exposed on the right side of the head.

One and twenty days after the last time of scalping, (more than nine weeks from the time of the accident) as his unfavourable symptoms still remained, though in a less degree, and as no exfoliation had taken place, I determined to apply the trephine, and remove, at least, some portion of the external table.

I used a large crown, and after sawing a little while, florid blood came through the wound in the bone *per saltum*. Being persuaded it must issue from an artery, either of the dura mater or the brain, I desisted from sawing, and by introducing a probe, was convinced that the internal

table was wanting in the spot which I examined.

The next day I replaced the trephine, and took away the circular piece which had been nearly separated by yesterday's sawing. To it adhered a considerable piece of the internal table.

I likewise easily removed with a forceps, all that portion of external table which lay between the posterior edge of the perforation, and the coronal suture, thereby denuding as much of the encephalon as could be covered by two fingers.

Fig. I. * of the drawing which accompanies this paper, was made after placing the pieces of bone, removed as above mentioned, upon another cranium; by which method, a clear idea is communicated of the state and situation of the portions of bone under consideration.

A. is the circular piece included in the saw; to the underside of this adhered the portion of internal table shewn in Fig. II. and adhering to the same, came away likewise the

* See Plate III.

the piece B. The letters cccc. refer to that portion of the os bregmatis, which was removed by the forceps, after trepanning. The greater part of it had no internal table; but the encephalon itself was denuded, as I have before mentioned.

In the part more distant from the perforation, the internal table remained, or at least there was some bony covering to the brain.

The exposed surface had a healthy aspect, was covered with minute granulations, and the brain pulsed freely and regularly; but whether the granulations arose from the dura or pia mater, or whether both meninges had been destroyed at this part, and they were sprouting from the brain itself, was not clearly to be decided. It is most probable, however, that they arose from the dura mater; as they did not at any subsequent time shoot up in that loose, spongy state, in which fungus usually rises, when the bone and dura mater have been opened, and the pia mater or brain exposed.

The wound was dressed with an anodyne cerate; and to avoid pressure, I used an elastic yarn night-cap, instead of a bandage.

Fig. II. shews the internal surface of the piece which came away with the trephine. The light part is the piece of internal table adhering to the external table; the latter is represented in shadow.

From this time the patient felt no more of the pain in his head, which he had hitherto complained of. His appetite was restored, and he recovered his flesh, and the healthiness of his countenance.

In the month of January, 1787, his cure was perfectly completed. In the intermediate time nothing occurred worth mentioning, excepting what follows.

Till the latter end of October matters went on very well. Small portions of the external table of the os frontis, near the coronal suture, and of the remaining part of the os bregmatis, near the seat of the trephine, were thrown off at different times. The thickening of the scalp and pericranium was every day subsiding. Cicatrization was going forwards on the edges of the ulcer, and ossification had made a considerable progress in the granulations of the exposed encephalon.

But

But at the last mentioned period of time, he was seized with a rigor; became sick and giddy, and complained of a severe pain in his head, though of a different kind from that which he had experienced before the scalping and trepanning. His assuring me of his perceiving this difference, a good deal lessened my apprehensions concerning the event of the present attack. As he had a troublesome cough, I bled him first in the temporal artery, which yielded but little blood, and then in the jugular vein of the affected side. I ventured afterwards to order him a vomit, which greatly relieved him. I allowed him wine, and a generous diet, and appeased his cough with anodynes.

By these means he was again recovered. Two or three times afterwards he was troubled with head-ach and giddiness, but found a certain relief in being bled in the jugular vein; and that, though the quantity of blood taken away, was very small.

The cicatrization of the sore was not accomplished without great trouble and difficulty. Stimulants agreed much better with it

it than emollient or the common epulotic dressings.

The ossification was completed at the time at which he is said to have been cured.

About a month before he was discharged, the lymphatic glands on the back part of the head and neck became swollen, but subsided as the sore healed.

REMARKS.

IT seems evident to me, that at the time the blow was received there was a fracture, without depression of the internal table, (notwithstanding the part fractured was at some distance from the seat of the blow) or which is in effect the same thing, that the life of the portion of internal table shewn in Fig. II. was then destroyed.

It has been very ingeniously observed, that the absorbents will remove very little of dead bone; but that of living solid parts, whether bony or otherwise, absorption, whenever excited, will freely go on. Now the internal surface of the piece of internal

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nal table was perfectly smooth, retained the impressions made by the vessels of the dura mater, and had a natural appearance, excepting its colour, which was a dead white. It is also probable, that the life of the external table, to some depth, was likewise destroyed by the blow, or at least that it did so much injury to the part, that in consequence thereof it became dead, and remained as an immoveable crust over the before mentioned dead portion of the internal table; effectually and entirely resisting every effort of nature for the removal of the latter: for the dead portion of internal table could not be absorbed, but acted as a stimulus to the absorbents of the circumjacent living parts, which were readily and extensively removed. But it could not be thrown off, because the external table remained firm and unseparated, and the integuments had not undergone the necessary change.—Knowing these things, we are at no loss to account for the pain and irritation under which the patient laboured, and for the chronic inflammation and thickening of the pericranium.

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The good fortune of the surgeon is likewise striking; the crown of the trephine was applied upon the very spot, under which lay the dead piece of the internal table.

Another circumstance worthy of observation, is, the readiness with which so large a quantity of bone was absorbed, without the formation of matter. I mean here, the removal of the circumjacent portions of the internal table.

Lastly, the exertions of nature for the preservation of the patient, can never be sufficiently admired. Had an extensive suppuration taken place, in despite of every care, it is probable the man would have perished.

In order to give an exit to the dead internal table, nature had certainly set on foot a process for the casting off of the whole external table of the right bregma. That this was her intention, seems evident from the shooting up of granulations in the coronal future. Had I laid bare the lambdoidal and sagittal futures, I doubt
not

not but that the same appearances in those
futures would likewise have followed.

I have lately seen the patient in perfect
health.

Gloucester,
May 2, 1787.

XVII. *Case of a Rupture of the Corpora Cavernosa Penis.* By Mr. CHARLES BRANDON TRYE, Surgeon of the Gloucester Infirmary. Communicated by Mr. HENRY WATSON, F.R.S. Read September 18, 1787.

A young man happening to fall down in the street, while his penis was in a state of erection, struck that part against the ground with great violence. He was instantly seized with a most excruciating pain in the part; and a torrent of blood gushed from the urethra, which continued to flow for some time. He walked home with great difficulty, and remained in violent pain till I saw him, which was about twelve or fourteen hours after his receiving the injury.

I found the penis very black, and swollen to an enormous size. The prepuce likewise was so much loaded with blood, as to produce a phymosis; and there was an extravasation

vasation of the same fluid through the cellular substance of the scrotum and perinaeum. He had drunk freely previous to his fall, and had now frequent and painful efforts to make water: his bladder consequently was pretty much distended.

I endeavoured in vain to pass a common sized catheter, and the attempt was followed by a copious flow of blood.

I therefore made several incisions into the prepuce and body of the penis, from which I pressed out a considerable quantity of blood; after which a small catheter was with some difficulty passed into the bladder, and a large quantity of bloody urine came away, to the great relief of the patient.

The penis was then wrapped up in rags soaked in spirit of wine; and at night I made several other incisions in the prepuce and integuments, and pressed out more blood.

Blood was taken from his arm, and stools were procured by glauher's salt and clysters.

The swelling of the penis diminished very much. That part of it which was
most

most sore to the touch, was on one side, and near the insertion of the ligamentum suspensorium; in which part there appeared (by the passing of the catheter) to be a considerable laceration. The difficulty of introducing the small catheter this evening was again considerable, and the urine was of a reddish chocolate colour, probably owing to the blood which had been dissolved in it.

It is unnecessary to give a detail of every day's proceeding. The retention continued eight days, the urine gradually returning to its natural colour, and the prepuce, scrotum, penis, &c. to their natural state. In proportion as the swelling of the parts was diminished, by the blood being absorbed or removed from the cellular substance, the difficulty of passing the instrument was lessened, and at length a large catheter could be used with ease.

On the ninth day he made water himself, though not without great pain.

On the twelfth day a large portion of the integuments, about the middle of the length of the penis, sloughed away;

away; and it was evident that some part of the urethra had also sloughed, as almost all the urine came through the subsequent ulcer. But by the use of bougies, the water was made to take its natural course, and at the expiration of three weeks from the time of the accident, the tumefaction of the parts was entirely gone; the patient made his urine perfectly well, and nothing unnatural remained excepting the sore from the sloughing of the integuments of the penis, which was very small, and in a state of healing.

He then left the town with a supply of dressings and bougies, and no doubt was in a short time cured.

Sloughs were thrown off from the prepuce, but the ulcers were healed up in a few days.

Let me remark, that it seems manifest, that when the cellular substance of the penis, &c. was so loaded with blood as to compress the sides of the urethra together, then no more blood could be poured out through the urethra, but made its way

through the posterior part of that canal into the bladder. This conclusion is made from my having observed the quantity of blood which came off of a florid colour the first time the catheter was passed, for then it had not remained long enough extravasated to undergo a change.

XVIII. *Account of a mortified Hand, which was taken off at the Joint of the Wrist.*

By Mr. JOHN LATHAM, F.R.S. Surgeon at Dartford in Kent. Communicated by Dr. GRAY. Read October 2, 1787.

SOME years since I was called to visit a publican's wife, between thirty and forty years of age, who had been brought to bed about a week before. Her labour had been natural, and every thing seemed to go on well till the evening before I saw her, when she was seized with a slight shivering; after which the left hand and arm became much swelled, and very painful. As she had had no stool since her delivery, and was feverish, I ordered some opening and cooling medicines, with an anodyne liniment for the limb.

On calling the next day, I found that she had taken very little of the medicine; nor could I persuade her, at that time, that any further care was necessary: two days after, however, she sent for me again; the pain and swelling of the arm being then

much increased, and the whole hand somewhat discoloured.

I now ordered her a purging medicine, which operated very plentifully. The common fomentation, with camphorated spirit, was applied to the limb, and it was then wrapped in a bread and milk poultice, to which were added three drachms of the thebaic tincture. She also was directed to take one drachm of bark in powder, every three hours, in a cupful of cordial mixture: this was continued about six and thirty hours, when her stomach rejecting it, I advised, in its stead, a decoction of bark with the cordial confection, and a plentiful use of red port wine. This method was continued, with the addition of an opiate at night occasionally, for six or seven days, at which time the three first fingers were black, and void of feeling, and began to separate at the knuckles. The thumb and little finger still retained a slight degree of sensation, and the rest of the hand looked better. In nine days more the three fingers had become quite putrid, and were so slightly attached that I thought

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it right to remove them, which I did without pain or loss of blood.

After this she went on so well for four or five days, that I hoped a stop was put to the further progress of the disease; but she was then again seized with a slight shivering, with delirium, and refused to take any medicine whatever for twenty-four hours; at the end of which time I found the arm in as great pain as at the first, and the remaining part of the hand more swelled than ever. Upon this I gave her an opening medicine, which operated plentifully, and she then took forty drops of the thebaic tincture, which procured rest for the greater part of that night.

On seeing her again the next morning, the bark was had recourse to as before, and the whole limb was enveloped with a poultice composed of powder of bark, and of the ingredients of the cummin cataplasm, each an ounce, of oatmeal a pound, and of the grounds of stale beer a quantity sufficient to bring the whole into a proper consistence.

The bark being again rejected, I gave her a warm cordial mixture with camphor:

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that also disagreeing in a few days, the camphor was omitted, and plenty of red port wine was given to her, with an opiate every night.

In about a fortnight more, the parts above the wrist had nearly recovered their natural colour, but below it all was black and putrid, and the connexion at the joint of the wrist was very loose. In this state I thought it right again to remove the putrid parts, which was done as before without pain or loss of blood. I must own, that at this time I had no other motive, in the removal of the putrid parts, than the comfort of my patient, intending to amputate at the usual place when she should be sufficiently restored.

I observed, however, that the integuments did not recede as I expected, and that granulations sprung up so fast, as to give me hopes they might at last wholly cover the extremities of the bones, and of course supersede the necessity of a future operation, which circumstance did ultimately happen, yet not without a further effort of Nature which I did not then foresee ; for at the time when I daily expected
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the ends of the bones would be covered with granulations, I began to feel the tip of the ulna loose; after a few more dressings it gradually protruded, and at the end of a week I was able to remove it with great ease, when I found the exfoliation had extended about an inch upwards. A short time after this, the end of the radius became loose, and in less than a fortnight came away, as the end of the ulna had done, but half an inch longer.

After this nothing more was necessary than to dress the fore in the usual manner, and in about six weeks more the cure was completed, the stump being as firm and even as after amputations in the usual way.

Dartford,

September 16, 1787.

XIX. *Of the different Kinds or Species of Inflammation, and of the Causes to which those differences may be ascribed.* By JAMES CARMICHAEL SMYTH, M.D. Fellow of the College of Physicians, and of the Royal Society; and Physician Extraordinary to his Majesty. Read January 8, 1788.

THE word Inflammation has commonly been considered as a general title, comprehending under it a variety of forms or species, which were supposed to be distinguished by peculiar and characteristick symptoms *. But Physic is far from having attained this degree of perfection; for, though some of those distinctions † have been

* Hæc enim (sciz phlegmonè vel Inflammatio) frequentissime incidit, & plurimas habet differentias, &c.

Harum autem cuique suam inveneris differentiam ex quâ ejus tum species cognoscitur, tum idoneum remedium suppeditatur. Galen, ad Glaucon, de Med. Method. lib, ii. cap. i.

† Prima itaque Inflammationis differentia est quæ in humidam & siccam distinguitur, ὑγρὰ τῇ δὲ ξηρὰ, ejus (sciz, humidæ) multæ sunt species, una ex sanguinis, altera ex bilis, scilicet ex utriusque simul defluxione. Id. eod,

been noticed by physicians, the greater number have passed unobserved, or have not been marked with that accuracy which the importance of the subject requires.

After having, for a considerable time, carefully attended to the various forms of Inflammation, it appears to me, that the principal causes of specific distinction amongst them, may be referred to one or other of the four following circumstances,

The first, is the cause exciting the inflammation.

The second, the function, or use in the animal œconomy, of the part inflamed.

The third, the natural texture or structure of the same.

The fourth, that texture or structure of a part which is not natural to it, but is the consequence of some previous disease.

Although the proximate cause of Inflammation, to use the language of Pathologists, must in every instance be one and the same; the more remote and evident causes, the objects of sense and of observation are widely different, and have considerable influence in
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varying both the appearance and nature of the disease. This fact, of which every one is competent to judge, requires no illustration to physicians of experience; to others, some examples may be necessary.

The Ophthalmia, or Inflammation of the Eye, which is frequently brought on by cold or external injury, is often the consequence of a scrophulous or venereal taint. But the disease, though the same in appearance *, is found to differ very essentially, and to require a very different treatment, according to the nature of the cause.

The appearance, termination, and method of cure in the Angina, or Inflammation of the fauces, are extremely different, where the complaint has been owing to cold; has arisen from a venereal infection; or has been occasioned by contagious miasmata.

There is also a very material difference between the inflammation of the capsular ligaments of the joints, when caused by gout,
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* Although in many instances, we may not be able, at first sight, to distinguish the cause of an Ophthalmia, yet physicians of experience will seldom be mistaken in judging of this, even from the appearance of the Inflammation.

or where the disease is the consequence of scrophula, or of the Venereal Virus *; and in all those cases the observation of Celsus is peculiarly apposite. “Eum recte curaturum quem prima origo causæ non fefellerit †.”

The inflammation of lymphatic glands may be adduced, as a farther illustration of the influence of the cause, in modifying the appearance and termination of this disease. Children, and young women during menstruation, are frequently, from catching cold, seized with swelling and inflammation of the lymphatic glands in the neck; the same thing happens, not only to the glands in the neck, but to the lymphatic glands in other parts of the body, from a strumous or scrophulous disposition; or from the absorption of acrimony. And it is a well known fact, that according to the nature of that acrimony, the progress

* The Venereal Virus, though not in general disposed to attack the capsular ligaments, sometimes affects the joint of the knee, and where it does, the diagnostic is not always very obvious. I remember two instances of this, where the late Mr. Pott gained great and deserved credit by his sagacity and discernment.

† Cels. in Præf.

progress and termination of the inflammation are widely different. How opposite, for instance, are the effects that follow from the absorption of venereal, cancerous, or septic acrimonies, and yet all of them, in the first instance, excite pain and inflammation.

As a still farther proof of what is now affirmed, I might mention the various appearance of erysipelatous inflammations, according to the different causes producing them; but I shall have occasion by and by to treat more fully of this subject: and the examples already given, are, I think, fully sufficient to prove the immediate influence of the cause in determining the nature, and consequently the species of the disease.

The second circumstance mentioned as a cause or source of specific distinction amongst inflammations, was the function of the part inflamed; this circumstance, perhaps the least important of any, has, from being the most obvious, given rise to the greatest number of distinctions amongst inflammations; Physicians having looked upon the inflammation of every particular organ of the

the body as a distinct and specific disease; this is evident from the long list of names to be met with in every book of physic, expressive of each individual part of the body, with the Greek termination (itis), as Phrenitis, Pleuritis, Hepatitis, Nephritis, &c. Now, although the propriety, and even advantage of distinguishing with accuracy the organ immediately affected by inflammation, cannot be called in question, yet we must acknowledge, that in all such cases, the great difference in the symptoms is more owing to a difference in the function of the part inflamed, than to any specific difference in the nature of the inflammation, which, in most instances of visceral inflammation, is nearly of the same kind; terminates in the same manner; and requires the same general treatment.

The third circumstance, stated as a cause of specific distinction amongst inflammations, was the peculiar texture or structure of the part inflamed; a circumstance which, though hitherto over-looked, or but slightly attended to, seems to constitute some of the most important distinctions of this disease.

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Experience has long since taught us, that every part of an animal body, the cuticle and hair perhaps excepted, is liable to inflammation; and, by attending strictly to the phenomena, it is equally evident, that according to the nature of the part affected the disease puts on a different appearance; is accompanied by different symptoms; is of various termination; becomes more or less acute or chronic; and requires a different, and at times an opposite, treatment. I do not, however, pretend to have fully investigated this subject, or to be able to ascertain all the various shades of inflammation, according to the great diversity of structure observable in the different parts of the body. I only propose to give the outlines of some of the most obvious and striking distinctions originating from this source; and which, as they occur frequently in practice, are of more immediate concern to the practical physician.

The following, then, in my opinion, may be justly considered as distinct species of inflammation, each of them having a specific character, strongly marked, which, in every instance, seems entirely to depend upon

upon the peculiar structure of the part inflamed.

1st.	_____	Skin. <i>Erysipelas.</i>
2d.	_____	Cellular Membrane. <i>Pblegmon.</i>
3d.	_____	Diaphanous Membranes.
4th.	_____	Mucous Membranes.
5th.	_____	Muscular Fibres.

Of the Erysipelas, or Inflammation of the Skin.

Various have been the opinions of physicians respecting the erysipelas, by some it has been ranked amongst inflammations, whilst by others it has been excluded from that class; and though, even in the time of Galen, it was generally supposed to be an affection of the skin *, yet the peculiar character of the disease was ascribed, not to the nature of the part affected, but to the nature of the cause producing it †.

That the erysipelas is a true inflammation, is proved by the redness, heat, swelling, and painful foreness of the part; symptoms which are constantly present, and

* Itaque exquisitum erysipelas solius cutis est affectus, Galen ad Glaucon. Lib. 9. Cap. 1.

† Quod si ex sanguine et flava bile justo calidioribus fluxio mista fuerit, aut ex sanguine quidem sed fervido ac substantia tenuissimo, affectus erysipelas vocatur, &c. Ib.

and coincide exactly with the general character of inflammation given by Celsus.

“ Notæ vero inflammationis sunt quatuor, rubor & tumor, cum calore & dolore*.”

That the skin is the part principally affected in this inflammation, is obvious to the sight. But, that it is the only part affected, and that the peculiarity of the symptoms is entirely owing to this circumstance, are opinions which require some farther illustration.

In objection to the first opinion, it may be said, that as the erysipelas is usually accompanied with considerable swelling of the part, and as this swelling is occasioned by the extravasation of a fluid into the cellular membrane under the skin, it follows that not only the skin, but the cellular membrane likewise is inflamed. The facts are certainly true, but not the conclusion. It is very certain, that erysipelatous inflammations are commonly accompanied with swelling of the part; and that this swelling is the effect of an extravasation of a fluid under the skin. But it does

* Cels. Lib. iii. Cap. x.

does not follow, that the cellular membrane, though filled with a serous exudation, is therefore in a state of actual inflammation; the contrary, I imagine, is clearly proved by the absence of pulsation, and of suppuration. On the other hand possibly, it may be argued, that although cases purely erysipelatous do not terminate in suppuration, yet instances every now and then occur, where, the inflammation having been communicated from the skin to the cellular membrane, suppuration and abscess have been the consequence. To this I reply, that before such an event takes place, the inflammation has ceased to be erysipelatous, or at least has become of a mixed kind.

That the skin then is the true seat of the erysipelas, must be universally admitted; but I have gone a step further, and maintained, that the phenomena of this inflammation, and the peculiarity of the symptoms, are entirely owing to the nature or texture of the skin. This opinion may perhaps seem improbable to persons unacquainted with the subject, but surely it will not appear so to those, who reflect on the analogy observable between the skin

and other membranes; or who consider with attention the symptoms that characterize the disease, which cannot, I apprehend, be explained on any other hypothesis. The most remarkable of these are; The uniformity in the heat and redness of every part of the inflamed surface; the extent of the inflammation; the sudden and irregular manner in which it spreads; the peculiarity of its termination, which, whilst it remains purely erysipelatous, is never in suppuration, but in vesications, sloughiness, or gangrene. But what seems to me perfectly conclusive in regard to the question, is, that the pathognomic symptoms, or those which constitute the disease, are constantly and uniformly the same, though the causes which produce it are numerous, and of great variety. To give however to this argument its full force, it is necessary to point out the different causes of erysipelas; a task which becomes the more indispensable, as an idea has generally prevailed, that those causes, though different in appearance, might all be referred to acrimony alone. But that this conclusion has been too hastily made, will plainly ap-

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pear from considering the five following heads, under which I have arranged the different causes of this affection.

1. *Mechanical injury*, as wounds or distention.
2. *Heat and Cold.*
3. *The bite or sting of insects.*
4. *Chemical Acrimony.*
5. *Fever.*

That erysipelatous inflammation is frequently caused by wounds, is an observation of antient date. Celsus says, “*Id autem quod erysipelas vocari dixi, non solum vulnere supervenire, sed sine hoc quoque oriri consuevit **.” That it follows some kind of wounds more frequently than others, is a fact also well known to surgeons. Those that it accompanies most commonly, are gun-shot wounds, wounds of the head, or wounds with laceration. It likewise often supervenes scarification of the legs in dropsies; even distention in those cases, will sometimes produce it. Of this I have seen many examples,

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* Lib. v. Capr xxvi. §. 33.

when the swelling was great, had increased suddenly, or when the skin did not readily yield to the distending fluid.

That heat is a frequent cause of erysipelatous inflammation, is generally known. There are few people who have not experienced in their own persons, the immediate pain, inflammation, and vesication, caused by boiling water. Even the rays of the sun, a degree of heat infinitely below that of boiling water, will frequently produce inflammation where the skin is very delicate; yet no one ever supposed, that either the sun's rays or boiling water possessed any particular acrimony. During the winter season, the hands and feet of children often bear the marks of the effect of cold; or to speak more philosophically, of heat below the freezing point: the chilblains with which they are so much afflicted, being inflammations of the erysipelatous kind, terminating sometimes in very deep and painful ulcerations.

Another not unfrequent cause of erysipelatous inflammation, particularly during summer, and in warm climates, is the bite or sting of insects; the pain, swelling,
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ing, and inflammation that follow from these, is sometimes very great. In this case, I allow there is some reason to suspect acrimony, as such effects cannot be supposed to arise from mechanical injury alone, especially when the injury is almost imperceptible. But although we give the name of acrimony to these poisons, we must confess that we are little acquainted with their nature and powers; and that they are very different from others which we distinguish by the appellation of chemical acrimonies.

The chemical acrimonies are principally saline bodies, either acids or alkalines; which, when concentrated to a certain degree, act as caustics, destroying entirely, or dissolving the animal fibres, and in a weaker or more diluted state excite inflammation. Besides saline bodies, the essential oils, and some resins, as euphorbium, produce, though in a slighter degree the same effect. Whether the operation of cantharides depends on an acid or resin, or if they possess some specific power of inflaming the skin, I will not pretend to determine.

To the foregoing instances of erysipelatous inflammation, the effect of causes merely local, systematic writers have given the name of Erythema, to distinguish them from the same disease when connected with fever, or the consequence of some general indisposition.

Of erysipelatous inflammation connected with fever, there are several varieties. The following are what we most frequently meet with in practice.

The Rose, or Erysipelas of the extremities.

The Sideratio, or Erysipelas of the head and face.

The Zona, or *Belt*, so called from its spreading round the waist.

The Symptomatic Erysipelas, which generally comes out in patches on different parts of the body, without the smallest alleviation of the symptoms, sometimes in bilious, and often in contagious and malignant fevers.

The *Rose*, or Erysipelas of the extremities is commonly preceded by lowness, lassitude, loss of appetite, and always by coldness or shivering, succeeded by a very smart fever resembling the paroxysm of an inter-

intermittent, during which the patient is sometimes delirious, but the febrile symptoms, though violent, are seldom of long continuance, and subside almost immediately upon the appearance of the inflammation, and they soon cease entirely, where the natural progress of the disease is not interrupted.

In the Sideratio, or Erysipelas of the head, the symptoms of fever are not always mitigated upon the appearance of the inflammation; on the contrary, the pulse in some cases becomes more frequent, whilst the inflammation continues for some days to spread or shift from place to place; yet notwithstanding this sensible difference between the Rose and Sideratio, which greatly encreases the danger of the latter, I consider the Erysipelas to be in the one case, as much as in the other, a critical solution of the fever; and think that the difference between them depends upon the inflammation or exanthema, if I may be allowed the expression, being slower * in coming out

* Is not this circumstance owing to the different thickness and texture of the skin in those parts of the body? Is it not

out on the head and face, and upon its being accompanied, from the greater pain and irritation, with a higher secondary, or symptomatic fever.

The Zona, or Belt, though commonly reckoned an Erysipelas, seems to partake more of the nature of a herpes *, coming out in pustules or pimples; it commonly spreads round the waist, often as high as the precordia. I have seen it also spread round the neck and shoulder. This species of erysipelas has been accounted extremely dangerous, a character which it surely does not deserve, unless where the patient is in the decline of life, has the liver or some of the viscera in a diseased state, or

owing to the same cause, that the small-pocks are often confluent upon the face and head, whilst they are distinct every where else.

* Galen considers the Erysipelas and Herpes only as varieties of the same disease. In his Book de Tumor, præter naturam, cap. ix. after prefacing *Αἰτίαι δὲ ἐπὶ τῷ τοῦ ὀφθαλμοῦ πρημνά*, he adds, *Quum igitur biliosus humor aliquo decubnerit, sincerus quidem cutem exulcerat, qui vero aqueæ saniei aut sanguini mixtus, minus est acris, et majis partem in tumorem attollit quam exulcerat. Hoc itaque Erysipelas appellatur alterum Herpes.*

Vid. Lib. i. Cap. ix.

is, in other respects, in a bad habit of body. I have frequently seen the disease in children, or in young people, without a single alarming symptom.

Besides the three kinds of erysipelatous inflammation mentioned above, in all of which the inflammation or eruption is more or less critical, the erysipelas sometimes occurs in fevers purely as a symptom, altogether unconnected with the solution or termination of the disease. Examples of this are common in epidemical anginas, sometimes in epidemical catarrhs, and in other fevers arising from contagion. I have likewise, especially after very hot summers, observed erysipelatous patches in fevers where there was no suspicion of contagion, but where, from the yellowness of the eyes, tongue, urine, &c. the redundancy of bile in the constitution plainly appeared.

Having in the preceding account of erysipelatous inflammation, had occasion to remark that it is excited by very opposite causes, we should be apt to conclude, that in this, as in other inflammations, the appearance and termination of the disease must be somewhat affected by the difference
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of the cause producing it; and a little experience will soon evince the truth of this analogical reasoning; as we find that even those symptoms which characterize the disease, from their being constantly and necessarily present, appear somewhat different, according to the difference of the cause. Thus the redness is more or less florid, yellowish, or crimson; the swelling more or less considerable; the heat, soreness, or pain, greater or less; the inflamed surface dry or moist, with or without vefications; the disease, even where the symptoms have been extremely violent, sometimes goes off kindly; at other times, with symptoms indicating but a slight affection, it terminates in foul ulcers, or suddenly in gangrene, mortification, and death.

Do not the preceding facts naturally lead to the following conclusions? 1st. That the Erysipelas is an inflammation of the skin only. 2dly. That the peculiarity of this inflammation, depends solely on the nature and texture of the skin. 3dly. That acrimony, though a frequent cause, is by no means the only one capable of producing it. And 4thly.

4thly. That though the difference of the cause can not in this instance alter the nature, yet it has considerable influence on the appearance and symptoms, of the disease.

To the first conclusion it may be objected, that as the Erysipelatous Inflammation sometimes recedes, or is repelled from the skin, and attacks other parts of the body, particularly the brain and lungs, those parts, as well as the skin, must be subject to this affection. The observation is certainly just, but not the inference. I admit, that the same cause which produced inflammation of the skin may equally excite it any where else: but it does not follow, that those inflammations, though arising from the same cause, should be of a similar nature, when the part affected is so extremely different. I affirm on the contrary, that there is not the smallest resemblance between the symptoms of the erysipelas of the head, and the delirium or coma which is brought on by this inflammation receding and affecting the brain: nor, to invert the proposition, is the peripneumony occasioned by the retrocession of the

the measles (an inflammation analogous to the erysipelas) in any respect different from the same disease produced by other causes.

From my own observation, I know no part of the body but the skin, or fauces, which strictly speaking is a continuation of the skin, that is liable to the true erysipelatous inflammation, and therefore I conclude, that the peculiarities of this inflammation are entirely owing to the nature of the skin itself.

Before quitting the subject of Erysipelas, it may be proper to take notice of the very opposite methods which have been adopted for the cure of it: for whilst some physicians, influenced by the affinity betwixt this and other inflammations, have strictly adhered to what is called the antiphlogistic plan; others, apprehensive of the termination in gangrene, have as constantly, and from the beginning, followed an opposite mode of treatment. Both methods have had their advocates, and both parties have appealed to experience in support of their opinions. But experience, when impartially consulted, will be found to decide, in

in this, as in most other cases of dispute, that both are occasionally right, and both occasionally wrong; they are both right in affirming, that the practice they recommend has at times been successful; and they are both wrong when they maintain, that any one method of cure has been universally so. Sometimes the one, sometimes the other method is preferable, and often neither one nor the other can be strictly adhered to. A judicious physician will always be more guided by the particular circumstances of the case, than by the name of the disease; and before he determines on the plan to be pursued, will consider well the age and constitution of his patient, the part of the body affected; the season of the year; cause of the complaint; appearance and stage of the inflammation, with the degree and nature of the fever accompanying it: and even when he has done so, will proceed with caution, attending to the effect of the remedies he has prescribed, and never forgetting, that though in all probability he is right, yet there is a possibility of his being mistaken.

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In general we may venture to say, that the lancet is seldom necessary for the cure of the erysipelas; but that we frequently experience the most salutary effects from the use of emetics, gentle laxatives, and neutral salts, especially when combined with camphire, absorbents, sweet spirit of vitriol, æther, &c. that cases also occur, in which (particularly towards the conclusion) the strength of the patient requires to be supported by broths, wine, &c. and where the free use of bark, with aromatic cordials, is requisite to check the tendency to gangrene. At the same time I think it a duty to declare, that from the injudicious use of those medicines, in the beginning of the disease, I have often seen the tendency to gangrene accelerated; nay, evidently brought on by the very means employed to prevent it.

Of the Phlegmon, or Inflammation of the Cellular Membrane.

This species of Inflammation, by far the most frequent of any, was known to the Greeks by the name of Phlegmone; which
word

ward had also, amongst the writers of this ingenious people, a general signification, similar to the Inflammatio of the Latins. Galen, to whom we are indebted for this information, has at the same time given us a very accurate description or definition of this particular species *; in which he has pointed out not only the most distinguishing symptom (*dolor punctorius*) but also the seat of the complaint (*carnosis in partibus*) to which two circumstances he might have added a third, equally characteristick of this inflammation, viz. its termination in suppuration or abscess.

I have said, that the Phlegmon is the inflammation of the cellular membrane, meaning to include under this name, not only the membrane strictly so called by anatomists, but likewise the adipose membrane, together with the glands and viscera: these having a similar loose spongy texture, consisting principally of cellular membrane, connecting an infinite series

* Hoc phlegmones nomen Græcis dici consuevit, de carnosis partibus, majorem in molem, cum tensione, renixu, dolore pulsatorio, calore et rubore extuberantibus. Galen De Tumor. præter naturam. Lib. i. Cap. ii.

series of minute blood vessels and nerves. Those parts of the body then, and probably those only are susceptible of phlegmonic inflammation; the laxity of their texture readily yielding to distention, having arteries of a size sufficient to occasion pulsation; whilst at the same time the structure of the parts is so extremely soft and delicate, as to be easily destroyed by the inflammation, and changed along with the extravasated fluids into that uniform milky fluid called pus, or purulent matter.

Such is the seat, and such are the peculiar circumstances, attending Phlegmonic Inflammation. In respect to the causes of this, they are, as we have already seen in the case of erysipelas, of different kinds. The most common, and consequently those with which we are best acquainted, are the following.

1. *Mechanical injury.*
2. *Acrimony.*
3. *Obstruction.*
4. *Fever.*

It is unnecessary to make any remarks on the power of mechanical injury; its effects are sufficiently known.

I already

I already, when speaking of acrimony, took notice, that it was reckoned by some physicians the only cause of erysipelatous inflammation. An opinion has also prevailed, equally erroneous indeed, that it was the cause of erysipelatous inflammation only. The venereal bubo, though caused by acrimony, is a true phlegmonic inflammation; and the pustules of the distinct small-pox must be allowed to be an example of the same kind. But if phlegmonic inflammation can be excited by acrimonies that are known, we have a right to conclude, that it may equally be excited by others with which we are unacquainted. "*Nam quod evidentes causæ faciunt, facere etiam abditæ possunt.*"

That obstruction is the sole and immediate cause of inflammation, was long a favourite doctrine in the schools of physic; and, notwithstanding this part of the pathology of Boerhaave is now laid aside, we must still allow, that obstruction, if not the direct and immediate cause of inflammation, is at least a circumstance which, concurring with others, frequently gives

rise to it: for if we are taught by experience, that obstruction often exists for years without any appearance of inflammation, we learn from the same authority, that inflammation is induced on every occasion where obstruction is accompanied by tension and pain.

We have seen that Fever is a cause of erysipelatous inflammation; it is equally so of the phlegmonic: but as it is often likewise a symptom, it becomes every now and then a question, not very easy to determine, whether the fever is the cause or effect; fortunately, the treatment of the patient is the same in either case. Another question presents itself, still more curious and interesting to the pathologist, though probably not of much more utility to the practical physician---In what manner does fever occasion phlegmonic inflammation?

To answer this question properly, would lead me into a longer digression than the limits of such a paper as the present demands, I shall therefore only mention a few facts, as data necessary to be established before

before we attempt any reasoning on this subject.

In the first place, It is evident; That the preternatural distention of any part of the arterious system; when to such a degree as to occasion pain and irritation, necessarily causes inflammation:

2dly. That in the beginning of fevers, especially of those accompanied with inflammation, the action of the heart and arteries is greatly increased, consequently the circulation is more rapid, and the momentum of the blood greater than usual.

3dly. That during the accession of fever there is not only a more rapid, but also; (owing to the irregular spasmodic affections of the arterious system,) an unequal circulation of the blood; and this inequality in the circulation, for reasons extremely obvious to the physiologist, is most sensibly felt in the brain and lungs; and therefore those organs of the body are more liable to suffer from this cause.

4thly. Independently of the peculiar situation of the brain and lungs, we may affirm it to be conformable to general obser-

vation, that inflammation brought on by fever, attacks most commonly those parts of the body where there has been previous obstruction, local weakness, or partial irritation.

5thly. Towards the end of fevers the parotid, axillary, or inguinal glands, are sometimes inflamed, and when that happens, the symptoms of fever subside as the suppuration advances.

The preceding facts will, I imagine, be found of considerable importance in answering the question proposed. But I shall leave the ingenuity of the reader to draw from them his own conclusions.

Although suppuration is the usual and peculiar termination of the phlegmon, yet this inflammation, as well as the erysipelas, sometimes terminates in gangrene; never, in my opinion, from the violence of the symptoms or pain accompanying it, but always owing to the nature of the cause, or to the constitution of the patient.

Even amongst phlegmonic inflammations, there is probably some difference of termination, according to the different organization of the part; the phlegmon of the lungs,

lungs,* for instance, may occasionally terminate in a somewhat different manner from that of the liver, &c. but I throw out this rather as a conjecture than as a matter of observation.

In regard to the cure of Phlegmonic Inflammation, we may apply to it, what Sydenham, agreeable to the theory of the times, said of the pleurisy, that the morbid matter should be evacuated at the orifice made by the lancet. There is certainly no species of inflammation which in the first stage requires a more free use of the lancet, or bears bleeding better, than the Phlegmon. To this however, as to every general rule, there are some exceptions. The phlegmonic inflammation, especially

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of

* I once, on examining the body of a man who died of a peripneumony, found that the disease had terminated in a way, which has only, I believe, been taken notice of, or rather the probability of it suggested, by my ingenious friend Dr. Cullen. The cellular substance of the lungs was filled with extravasated blood. I lately met with an instance of the same kind, but where the lungs were only partially filled with bloody serum. The person alluded to was suddenly seized with a difficulty of breathing that soon proved fatal, when in appearance recovering from a putrid fever attended with aphthæ, during which the breathing was not in the smallest degree affected.

of the lungs, is not always purely inflammatory; it is sometimes combined with catarrh; or with gout; or arises from causes which have a septic tendency; or the inflammation is too far advanced towards suppuration to admit of resolution: in all such cases bleeding is of doubtful efficacy, or highly improper. Where the termination in suppuration is unavoidable, every one knows that bleeding is prejudicial, that the strength of the patient must then be supported, whilst the vessels of the inflamed part are relaxed by a moist heat, or even stimulated by warmer applications.

Of the Inflammation of Diaphanous Membranes.

Another species of inflammation claiming our particular attention, at present more known by its termination than by its symptoms, is the Inflammation of Diaphanous Membranes. Under this name I mean to comprehend all those membranes of a firm hard texture, and of a certain degree of transparency; such as the Pleura
and

and Peritoneum, (whether constituting the common envelopements of the thoracic and abdominal viscera, or forming the external covering of each particular viscus), the Pericardium, Membranes of the brain, Tunica vaginalis testis, Periosteum, and the Capsular Ligaments of the joints.

The illustrious Haller, a man whose various talents and extensive learning rendered him an ornament to the age in which he lived, fell into a very great mistake on this subject. Having observed in his experiments on living animals, the small share of sensibility which those membranes, in their natural state seemed to possess, he concluded, too hastily, that they could not be the seat of inflammation or of acute pain, and even went so far as to assert, that the intercostal muscles, and not the pleura and lungs, according to the common received opinion, were the parts affected in the pleurisy.

I need not now endeavour to refute an opinion sufficiently contradicted by the symptoms of the disease, and by the numerous dissections of morbid bodies. His mistake, however, may serve to teach

us the extreme caution requisite in applying physiological, and, I may add, chemical experiments, to explain the nature or phænomena of diseases; and is a proof, among others, that Haller was more conversant with anatomy and physiology, than with the practice of physic.

From accurate observation and experiment we are now certain, that those membranes, as well as other parts of the body, which show little signs of sensibility in a natural state, become, when affected by inflammation, exquisitely sensible, and the seat of the most acute pain. It is also remarkable that though not very sensible to the usual stimuli, they are affected in a singular manner by air; a stimulus which has little or no operation on other parts of the body endowed with the highest sensibility.

The particular symptoms which characterize or distinguish this species of inflammation, are not yet accurately ascertained. We are certain, however, that it is attended with great pain, and with a high fever; and that the fever in this case, as in the

the phlegmon, is in proportion to the inflammation and pain. But it is the termination of the disease that in a particular manner distinguishes it both from the phlegmon and erysipelas.

Diaphanous membranes, in consequence of inflammation, are found thickened, opaque, sloughy, with a gelatinous or purulent exudation on their surface, sometimes causing preternatural adhesions; at other times the cavities lined by those membranes are filled with a turbid serum, with filaments floating in it. But what is now said of those membranes in general, will be best illustrated by particular examples. In the pleurisy, the pleura is sometimes the only part affected by inflammation; at other times, and what is the most common case, the pleura is only partially affected in consequence of a phlegmon or abscess on some exterior part of the lungs. The symptoms which distinguish those two kinds of pleurisy, are not sufficiently known. In the first the pain and soreness of the chest are probably more general, but without the laborious and oppressive breathing
of

of the peripneumony. In the true pleurisy the short cough, and acute pungent pain in the side, almost entirely preventing inspiration, sufficiently mark the disease. I have myself seen both these complaints, and the dissections of the most distinguished anatomists * afford complete evidence of their reality.

The inflammation of the peritoneum is still more frequent than that of the pleura. It frequently happens in puerperal fevers, and in my mind, constitutes the most essential symptom of that disease: at least I have always seen the marks of peritoneal inflammation, in those puerperals, whose bodies I have examined after death. The symptoms accompanying peritoneal inflammation, are fulness, tension, and a general soreness of the abdomen, with purging, and fever; the pulse is remarkably small, quick, and thready, and the slightest pressure on the part causes pain, sickness, and vomiting. Upon dissection there is found a kind of gelatinous exudation all over the intestines, and the cavity of the abdomen is often filled with a turbid whey-coloured serum,

* Vid. Morgagni, Lieutaud, W. Hunter, Hewson.

ferum, having more or less of a purulent appearance †.

The inflammation of the peritoneum, which so frequently occurs in puerperals, is not, I am persuaded, altogether confined to persons in that situation. I have met with the same symptoms in others, although I have not yet had an opportunity of ascertaining the fact by dissection.

That the pericardium is also subject to inflammation, appears from the inspection of morbid bodies; we are as yet, however, unacquainted with the symptoms that distinguish this complaint, probably, besides the general symptoms of pneumonic inflammation, it must be accompanied with violent palpitation of the heart, and irregularities in the pulse.

Dissections prove likewise, that the membranes of the brain, both the dura and pia mater, are sometimes from fever, and frequently from external injury, affected by inflammation; and that the inflammation of

† I remember a Patient in the Middlesex Hospital, whose belly, after a puerperal fever, inflamed and burst at the navel, when a large quantity of a fluid, such as above described, was discharged at the wound.

of those membranes terminates in a similar manner with the inflammation of the pleura and peritoneum.

The inflammation of the tunica vaginalis testis occasioned by the admission of air, and the effect of this in causing an adhesion of that membrane to the testicle, is the foundation of the common method of curing the hydrocele.

The inflammation of the periosteum is not unusual in scrophulous and venereal patients. In the latter the pain is sometimes great, though seldom accompanied with any considerable fever; in the former the pain is less remarkable, owing to an insensibility peculiar to this disease. But the acute inflammation of the periosteum, of which we have an example in the deep seated paronychia *, occasions both violent pain and fever.

Amongst the causes of inflammation peculiar to diaphanous membranes, I know

* The pain is often so excessive and tormenting, as to make the patient lament day and night, and in some constitutions it even excites a raging fever, with faintings, convulsions, delirium, an abscess or sphacelus of the part, and without timely assistance death itself.

Vid. Heister's Surgery, p. 1. §. v. cap. clxx,

know none that is general but *air*, and even this is not strictly so; for I do not believe it affects the periosteum. As partial causes we may reckon *the venereal virus, the gout, and the scrophula*; the first attacking the periosteum, the second the capsular ligaments, and the third both; *pregnancy* may also be accounted a predisposing cause, at least to peritoneal inflammation. Of the inflammation of the pleura alone, I have seen but one example; the patient was a girl seven or eight years of age, and of a scrophulous family.

As we are so little acquainted with the symptoms that distinguish the inflammation of those membranes, I can have little new to offer respecting the treatment. But, from the instances I have met with of peritoneal inflammation, I am inclined to believe, that it bears purging better than the phlegmon, tho' it does not admit of so liberal a use of the lancet; the strength of the patient being more apt to sink upon bleeding, and the disease to terminate like the erysipelas in gangrene.

*Of the Inflammation of mucous or pituitous
Membranes.*

A fourth, and very remarkable species of inflammation is that of mucous or pituitous membranes; an expression certainly very apposite, when applied to those membranes which line the various passages and cavities of the body, that serve the purpose either of transmitting or of containing fluids: and, notwithstanding there is great reason to believe that the structure of those membranes is somewhat different in different parts, according to the various purposes of the animal economy, it is extremely apparent, that there are certain qualities which they have in common, seemingly connected with the peculiarity of their function, and which serve to distinguish them from all others. Their texture is more soft and spongy than that of other membranes, their surface villous, and interspersed with the small openings of a number of glandular follicles; perpetually pouring out a thin transparent ropy fluid; which, whilst it moistens their surface, serves to protect them from the acrimony

acrimony of the fluids, to which they are exposed. Membranes with such properties as have been now described, are found lining the nose, fauces, larynx, trachea, pharynx, œsophagus, stomach, intestines, vesica urinæ, urethra, vagina, uterus, palpebræ, and forming the tunica adnata of the eye. In all those parts they are liable to be inflamed, and the inflammation of them is always attended with similar symptoms. The chief of which are the following :

An encreased thickness and sensibility of the membrane; the villous surface red and spongy, with a considerable sense of heat and soreness, though seldom any very acute pain, unless what is occasioned by a fluid passing along the inflamed surface. The mucus, which in a natural state is a mild transparent ropy fluid, loses its tenacity in consequence of inflammation; at first it is thin and acrid, frequently ex-coriating the neighbouring parts; towards the end it puts on a purulent appearance; but neither the colour nor consistence of the mucus are uniformly the same, being subject to change, according to the state
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of the membrane or the degree of the inflammation.

As the inflammation of those membranes is not accompanied with much pain, it does not occasion any great degree of fever; therefore, when we find a considerable degree of fever present, we may conclude that the fever is not a symptom of the inflammation, though the inflammation in many cases may with propriety be considered as a symptom of the fever.

When this inflammation terminates in a favourable manner, the symptoms gradually subside, and the discharge at first diminishing, resembles purulent matter, till acquiring more tenacity and transparency, it at last has every property of real mucus. In cases where the termination is less favourable, the discharge sometimes excoriates or ulcerates the membrane itself; or stopping suddenly, occasions phlegmonic inflammation, and abscess in the cellular membrane, or in some of the neighbouring parts. There are instances also, though by no means frequent, where inflammations of this kind have terminated in gangrene. But I am convinced

convinced, that wherever such an event has taken place, it has been owing rather to the nature of the cause, than to the species of the disease.

The three first species of inflammation; are, in the strictest sense of the word, acute diseases *; their symptoms being violent, and their termination speedy: whereas the inflammation of mucous membranes often continues, without much increase or decrease, for a long time; so long indeed, that the disease becomes a chronic, more properly than an acute one; and in many cases, even when the principal inflammatory symptoms have been removed, a sponginess, redness, and increased sensibility of the membrane remain, with the discharge of a thin discoloured mucus; and in every instance where any of those membranes have been violently inflamed, the part continues long weak, and liable to be again affected from the slightest cause.

Having finished with the symptoms, I shall next endeavour to investigate the causes

* The scrophulous, and possibly the venereal inflammation of the periosteum, are exceptions to this rule,

causes of the inflammation of mucous membranes; the principal of which are the following:

Catarrh, Contagion, Scrophula, Venereal Virus, Error loci, Mechanical or Chemical Acrimony.

Although physicians are perhaps not yet agreed respecting the theory of Catarrh, there can be no difference of opinion in regard to the symptoms, the most remarkable of which is the inflammation of the membrane of the nose, commonly known by the name of Schneiders membrane. The membrane covering the velum pendulum palati, uvula, and tonsils, is likewise often affected in the same manner, and from the same cause; and, if we may judge from the cough, sense of heat, soreness, &c. of the trachea, the membrane lining that tube, occasionally undergoes a similar morbid alteration. I think it also probable, (for we can have no positive evidence of the fact,) that in diarrhoeas, from catching cold, the villous or interior coat of the stomach and intestines is sometimes slightly inflamed. But although the inflammation of those membranes is one and the same, the symptoms,

toms, depending chiefly on the particular function of the part, are extremely different. Thus, what occasions sneezing in one place, excites coughing in another, and purging in a third.

As the history of phyfic affords many examples of catarrhs, anginas, and dysenteries, propagated by contagion, it follows, that certain contagions, as well as the common catarrh, occasion inflammation of the mucous membranes.

The scrophula, as we have already seen, is apt to affect some of the diaphanous membranes; it has also a great tendency to affect the mucous membranes. And the eyes, nose, and upper lip, are frequently inflamed and thickened from this cause.

Not only the scrophula, but the venereal virus, when introduced into the habit, seems to have a propensity to affect the mucous membranes; and therefore the eyes, eye-lids, nose, and fauces, are often the theatres of its destructive ravages.

To the preceding causes may we not add the Error Loci of Boerhaave? I confess, that this part of his Pathology, when

carried

carried to its full extent, founded as it was on the erroneous system of Leeuwenhoeck, has been justly exploded; but although we are now certain that there is no decreasing series of globules in the blood, or of arteries and veins particularly adapted to each; yet, as we are told by some very great anatomists, that the red particles, or colouring part of the blood, are of a flat or annular shape, and probably solid; and as we know that they do not, in a natural state of the body, enter many of the capillary vessels, into which, in a state of inflammation, we see them forced; we have only to admit that there are other causes, as well as inflammation, which may occasion this, and the consequence is obvious: for if forced into vessels incapable of transmitting them, they must necessarily occasion distention and pain; and distention and pain in any part of the arterious system necessarily induce inflammation. Here then is an inflammation caused by a true error loci, and the appearances of the ophthalmia, on many occasions, shew that this actually takes place. Who has not seen a blood-shot eye, without much pain or inflammation in the beginning,

ginning, soon accompanied by both, when the distention was not speedily removed by emptying or relaxing the vessels of the part. And, if we plainly perceive inflammation to follow from the distention of the vessels on the tunica albuginea of the eye, we may fairly conclude that the same thing happens in other similar membranes.

On the subject of mechanical and chemical acrimony I have little to remark. Every one knows, that dust or sand blown into the eyes will cause inflammation; and that those chemical acrimonies, which excite inflammation, when applied to the skin, will certainly have the same effect, when applied to a more sensible membrane, or at least to one that is not defended by so thick a cuticle.

But if the inflammation of mucous membranes differs from other inflammations in symptoms and termination, it differs from them not less remarkably in the mode of treatment.

As this inflammation hardly ever occasions any considerable pain or fever, general bleeding is seldom necessary, partial or local bleeding being in most instances sufficient;

whereas purging, which in phlegmonic and erysipelatous inflammations, excepting in the beginning, is either prejudicial, or at least of equivocal use, in this species of inflammation, is commonly attended with the most evident advantage. Opiates also are here of singular efficacy. But what most remarkably distinguishes the inflammation of mucous membranes from all others, is the benefit arising from cold and astringent topics; these, which in every other species of inflammation, are hazardous or prejudicial, in this, are frequently employed, and with the very best effect.

But as it is not my intention at present to examine the peculiar nature of each disease connected with the inflammation of mucous membranes, which it is absolutely necessary to do before we can pretend to determine the proper local treatment, I shall confine the few observations I have to make on topics, to the case of the ophthalmia alone.

There is no complaint more frequently left to the direction of the illiterate and unskilful, nor perhaps any in which professional experience and sagacity are more necessary,

necessary, than the inflammation of the eye, a part of the body so essential to our enjoyment of life; a part in itself so extremely sensible, and which, when inflamed, is irritated even by light, and by the fluid of the lachrymal gland. When we consider the various causes of the inflammation of this organ, and the still greater variety in the ages, constitutions, and habits of life of those who are liable to it; when we also reflect on the number of external applications in daily use, many of them so opposite in their nature and effects; we may easily conceive the difficulty of curing inflammations of the eyes, and the great risk of trusting such opposite and powerful remedies in the hands of ignorance and empiricism.

For my part, I will freely acknowledge, that altho' I have paid all the attention in my power, to distinguish the different kinds of ophthalmia, and to ascertain those symptoms that point out the use of different topics, I have not yet such confidence in the exactness of my observations as to wish to give them to the public, lest I should mislead others, while pretending to instruct

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them.

them. I shall therefore only hazard some general observations on the subject.

In the first place, astringent topics, though often extremely useful, appear to me to have been too indiscriminately employed. They are improper in recent cases, before evacuations have been made; and they are improper in every case where there is great pain and irritation. They are of no service in the venereal, and seldom of any in the scrophulous ophthalmia; even when they are proper, they are commonly used in too concentrated a state. They are more useful I believe when more diluted; at least it is advisable to begin with a weak solution, especially of the preparations of lead, as we have it always in our power to increase their force when we find it can be done with safety and effect.

Where the inflammation of the eyes has been attended with great pain and irritation, I have found a fomentation made of elder flowers, and of white poppy heads, more useful than any astringent topic; to this I have occasionally added as the pain and irritation abated, a small quantity of the aqua ammoniæ acetatæ, or of the sal ammoniacus.

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In other cases, where the irritation and pain were less violent, though still in my opinion too great to have recourse to astringent collyria, I have used with advantage a weak solution of nitre, or of sal ammoniac in rose water, or in the camphorated mixture, which applications I have found most successful when there was the appearance of a scrophulous habit.

Spirituous collyria seem to me to be hurtful, when the inflammation is great, but when that is inconsiderable they are often of service, by lessening the irritability of the eyes or eye-lids.

Ointments or liniments, I believe, are principally useful in cases of lippitude, or where the inflammation is chiefly confined to the palpebræ, and has become chronic. The preparations of mercury are sometimes of service in this particular case.

Of the Inflammation of the Muscular Fibres.

A fifth species of inflammation, different in many respects from any of the preceding, and whose specific difference is owing likewise to the peculiar structure of the part,
is

is the Inflammation of the Muscular Fibres, commonly called the Acute Rheumatism.

From our knowledge of the great sensibility and irritability of the muscular fibres, and of the number of nerves and blood vessels with which they are supplied, we should be apt to conclude a priori, that they must occasionally be the seat of pain and of inflammation; and every page of the history of physic confirms this hypothesis. This inflammation, it is true, is accompanied with no very considerable swelling of the part, no throbbing or painful pulsation, and no very remarkable sense of heat, but it is characterized by the same symptoms by which all other internal inflammations are distinguished, viz. violent or acute pain, accompanied by fever, and greatly aggravated by motion or distention; an inflammatory crust also appears on the blood that is taken away, and the disease is seldom cured without repeated bleedings and a strict antiphlogistic regimen.

But if this inflammation differs from others in its symptoms, it differs no less remarkably in its termination; never does a rheumatic inflammation, so far as I have observed,

observed, terminate in suppuration or gangrene; when it continues long or is not completely cured, it occasions debility, palsy, and rigidity of the muscular fibres; or rigidity of the tendons, with an extravasation of a gelatinous matter about their sheaths, and about the ligaments of the larger joints, entirely destroying the motion of the limbs.

The inflammation of the muscular fibres differs also very materially from other inflammations as to the period of its duration, for though the pain and fever accompanying it be as violent as in any case whatever, the complaint is neither so acute, nor of so speedy a solution, as the three first species of inflammation, but, like that of mucous membranes, is apt to degenerate into a chronic disease, the pains and swellings remaining after the fever and primary inflammation have entirely subsided. So great, indeed, is the sensibility and irritability of muscular fibres, that they are frequently affected by spasm or pain when there is no suspicion of inflammation, and from causes which are known to have an opposite tendency.

As

As to the causes of muscular inflammation, they are in general extremely uncertain; sometimes, however, they are more obvious; cold and moisture, for instance, applied to the body, in particular circumstances, seldom fail to produce it. Mercury, imprudently administered, is also a pretty frequent cause of acute rheumatism, and it is probable that other acrimonies or poisons introduced into the habit have a similar effect: the poison of lead, we know, as well as mercury, causes the most cruel muscular pains, though seldom attended with inflammation or fever.

But to proceed to the cure.

The illustrious Sydenham, whose name never can be mentioned in this country but with reverence, in the beginning of his practice, trusted entirely to the lancet for the cure of the acute rheumatism, as well as of the pleurisy; thinking that the cause of both was to be evacuated through the wound at the arm. But he was wise enough to rectify this mistake by his after experience, confessing that so great a loss of blood

blood as was necessary to cure the disease, produced consequences which were not easily remedied. He must also have observed, when the cure of the disease was attempted by bleeding alone, that in some cases, the strength of the patient was not equal to the remedy; whilst in others, the disease was only partially removed, the pains remaining after the fever was gone; and an acute malady changed into a chronic one of very tedious and doubtful solution.

Influenced by these considerations, some physicians have endeavoured to obviate the inconveniences of Sydenham's practice, by substituting topical for general bleeding. This alteration has some advantages; and has also some disadvantages: it certainly does not impair the strength so much as general bleeding; on the other hand, where bleeding is absolutely necessary, the relief afforded by this is comparatively trifling, and the parts of the body affected are commonly exposed to the cold air. But the greatest objection to both is, that, when no other remedy has been employed, they in most cases only palliate the symptoms, without removing the cause: this in general
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can only be done by promoting a diaphoresis, which, therefore, deserves to be ranked amongst the principal means of curing rheumatic inflammation. But though the great efficacy of sweating in the cure of this disease is well known, the practice has at times been productive of the most baneful effects.

As for those persons who, without discriminating between the acute and chronic rheumatism, attempt to cure the former by sweating, without previous bleeding, or any other evacuation, and who, with this intention, employ essential oils or medicines which are apt to increase both the inflammation and fever, they act with equal wisdom as if they endeavoured to extinguish fire by pouring oil or ardent spirits on it.

Another practice equally common, and not less pernicious, is the encouraging profuse sweating, to which the sick are already too much disposed, when it has not the smallest effect in lessening the frequency of the pulse, or in relieving the pains: to promote sweating under such circumstances, is only to hurry the patient to his grave, or to leave him ever after a miserable victim to pains and lameness. But though sweating,
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like every other remedy, is liable to abuse; this does not at all lessen our opinion of its efficacy when judiciously employed.

Another evacuation, the utility of which I have frequently experienced in removing rheumatic inflammation, is purging: although this likewise requires to be conducted with prudence and caution; the milder purgatives or laxatives only should be employed, and repeated at proper intervals, so as not to exhaust the strength of the patient: towards the end of the disease calomel is sometimes usefully combined with these. Whether neutral salts are in this case of any service, independently of their effect in promoting the different evacuations, I cannot pretend to decide: but think it not improbable that they are useful in other respects.

I say nothing here of the means of palliating the muscular pains, nor of the difficulty of breathing, palpitation of the heart, &c. which sometimes occur in this disease. As it was not my intention to treat of the rheumatic fever, but to point out the peculiarities of the rheumatic inflammation.

Having

Having now finished the description of those five species of inflammation, whose specific distinction depends upon the natural texture of the part, there only remains for me to take notice of those distinctions that are owing to a morbid texture; a circumstance also very necessary to be attended to, in explaining the various forms of this disease.

If I have succeeded in proving that the different forms of inflammation depend principally upon the structure or texture of the part inflamed, it follows as a corollary to this proposition, that the form or species of inflammation, so far as it is connected with texture, will be equally diversified by a difference in this particular, whether natural or adventitious. But although this conclusion must be admitted, it is difficult to bring illustrations of the fact that are not liable to some ambiguity; those that appear to me the least exceptionable, are the *scirrhus*, the *struma*, the *carbuncle*, and the *tubercle of the lungs*.

I know it may be said, and said with some degree of probability, that, in the three first, the nature of the inflammation, and the

the manner in which it usually terminates, is more owing to the habit of body of the patient, than to the nature of the obstruction. I allow, that the habit of body determines, in many cases, the nature of the obstruction, but think it not improbable, that the obstruction once formed may have considerable influence in determining the species of inflammation that follows.

But this, and every other opinion contained in the preceding pages, I submit with great deference to the Society, and to the public judgment, adopting upon this occasion the language, as I have long done the sentiments of Cicero. “*Nos qui sequimur probabilia nec ultra quam id quod verisimile occurrerit, progredi possumus, et refellere sine pertinacia, et refelli sine iracundia parati sumus **.”

* *Tuscul. Quest. Lib. i.*

XX. *A Case of Inversion of the Uterus;*
 By ROBERT CLEGHORN, M.D. *Professor of Materia Medica in the University of Glasgow.* Communicated by Dr. GARTHSHORE. Read January 22, 1788.

THE subject of this case is a well made woman, aged twenty-nine years, who four years ago was delivered of her first child.

In the year 1786 she became again pregnant. During the whole time of this second pregnancy, she complained frequently of pain in the small of her back, and of a sense of weight in the lower part of the abdomen.

On the 9th of February, 1787, she was seized with the pains of labour, and by her own particular desire was delivered in an erect posture; her knees resting on a pillow on the floor, while her arms were supported round the neck of a woman who stood opposite to her. As she was rather languid, the pains were for some time lingering, but at last the child came forth so speedily,

speedily, that the midwife thinks the delivery of the head was compleated during a single pain. The patient says, that after this her strength failed, and the pain went off; and that the rest of the child was delivered by the midwife. About two minutes afterwards, the patient still remaining in the upright posture, the placenta came away without any force on the part of the midwife. The patient, who was then faint, and nearly insensible, felt no pain during its separation. She was quickly put to bed; a profusion of pure blood flowed from the uterus; the pains, so far from being alleviated by the delivery, grew every moment more intense; those of the back in particular were so excruciating, and the throes which the women call *bearing pains* so violent, that the patient, worn out with fatigue and suffering, became alternately insensible and delirious.

On the second day after delivery, as the patient had made no water, the midwife tried to introduce a catheter, but in vain. She now for the first time discovered a tumor equalling in size the head of a child, and filling very completely the whole of

the vagina. Being ignorant of its nature, she made the patient rest on her knees and elbows, in which posture having examined it, she attempted to take hold of it, but finding it fixed soon desisted, being alarmed by the shrieks of the patient, who requested she might be left to her fate, as death appeared less formidable than the torture to which this examination subjected her.

That night, at a late hour, application was made to Mr. Watson, an intelligent surgeon of this place, who having heard the case imperfectly stated, prescribed a mixture, with laudanum, to be given occasionally till the pain should abate.

The next day, being the third after delivery, he saw her for the first time. She was then delirious; the pain, tho' somewhat lessened by the opiate, was still very considerable, and her belly was much swelled. The catheter, after many efforts, having been introduced, two quarts of urine were drawn off. This evacuation relieved her considerably, for which reason, as the patient was extremely weak and irritable, Mr. Watson judged it improper to examine the tumor

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at that time. Next day however he examined it carefully. It appeared firm, round, about the size of a child's head, occupying the whole cavity of the vagina, and containing near its centre a kind of groove, into which he could thrust the point of his finger. Its bulk and pressure now prevented the introduction of a catheter, though both a strait and crooked one were tried, but the urine was drawn off by means of a bougie.

Mr. Watson was accompanied at this visit by Mr. Hamilton, Professor of Anatomy and Midwifery in this University. They found her extremely weak and exhausted, by the long continued pains and great discharge of blood. Her pulse was feeble, and about 120; her tongue parched; her skin hot and dry. The external labia were at this period inflamed, swelled, and extremely painful. The surface of the tumor was still more tender, so that it was impossible to examine it accurately, or indeed at all. Suspecting the possibility of an inversion, the certainty of which could not be determined, they agreed to continue to draw off the urine

regularly; to keep the belly open by injections; to repeat the opiate occasionally; and, by sedative applications, to moderate the inflammation of the external parts. This mode of treatment procured some relief; the patient, however, still suffered considerable pain, and was withal so languid that she abandoned herself to despair, or rather looked forward to death as her only refuge.

Fourteen days after delivery, while she was at stool, the tumor which had hitherto remained within the vagina, was forced down with pains far more violent than those which had accompanied the birth of the child, and appeared considerably without the os externum. In this situation we had an opportunity of examining it accurately. Its bulk was considerably diminished, but it still exceeded, by about one half, the fist of an ordinary man. Its figure was round, or rather elliptical; its lowest point reached three or four inches below the lips of the os externum; and it dragged down the inverted vagina so far, that the finger could not be thrust up in any part of its circumference. Its substance
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was solid and hard; its surface dry, shriveled, and white, owing, I suppose, partly to the external air, but chiefly to a saturnine application. For, soon after it had appeared externally, a cold poultice with sugar of lead had been applied to it; but after two weeks this application either produced, or seemed to produce intolerable sickness. Instead of it, therefore, bits of cloth dipped in *Aqua Vegeto-mineralis*, were applied from time to time, after which the sickness abated.

It had been very early suspected that this tumour might be the uterus inverted, and the suspicion was now confirmed. We determined, therefore, to persevere in the method of cure already adopted, and had the satisfaction of seeing our exertions prove successful. The pain and swelling abated by degrees, till at length the tumour was returned within the vagina by Mr. Watson; and the patient, having regained some degree of strength, was enabled to suckle her infant.

I examined her this day, Oct. 30, 1787, and found her in good health. The tumour was felt in the vagina about two inches from

the os externum, and a slight pressure on the posterior part of it produced considerable pain. Its surface is now moist and smooth. When she stoops to lift any thing, or to wash clothes, (and her situation in life obliges her to do both) or when she strains much at stool, it is apt to descend below the os externum. In this situation it produces acute pain, and generally discharges a quantity of blood; but the bleeding ceases after she has replaced it with her fingers. Even when the tumour does not fall down, she has frequently a sensation extremely disagreeable, though hardly entitled to the name of pain: she complains that her womb or some part of her bowels is pressing downwards with considerable violence.

For some time she tried to support the tumour by a T bandage; which, however, she has not used of late.

To

To the preceding history I shall add a few remarks, suggested by comparing it with similar cases recorded by the different writers whose works I have had an opportunity of consulting.

Some, considering the situation of the uterus resting on the bladder before, and on the rectum behind, and retained in its place, not only by its external coat and its vessels, but also by its ligaments, seem to think, that it can hardly, on any occasion, either prolapse, or be inverted. An excrescence sometimes from the womb, but more frequently from the vagina, has, in the opinion of these authors, been repeatedly mistaken for the womb itself *.

Others, going to the opposite extreme, speak of the prolapsus and inversion of the uterus as ordinary and trifling occurrences, which, far from destroying life, seem hardly to impair health. Examples are gravely related, in which the uterus was completely destroyed by suppuration, or cut out by the hand of a surgeon, without any very bad conse-

* Vid. Boneti Sepulchret. Lib. iii. Sect. xxxi. Observ. vi.

consequence. In one case * it is said to have been extracted piece-meal during two days, without pain, after which the patient recovered, and enjoyed good health for three months, when she was carried off by a pleurisy. The body being opened, no uterus could be found, but its place was supplied by a certain callous body, "*quod natura, quæ nunquam in nobis otiaur, jacturam ejus partis, vel lacunam potius alvi repletura, substituerat.*"

A similar case is recorded in the Memoirs of the Academy of Sciences at Paris on the authority of M. Vacher a man of considerable reputation. He says, that a patient of his lost her whole uterus without suffering any material injury. No detail of circumstances is given by the Academician who mentions the case, but he thinks M. Vacher had mistaken some other part for the uterus; and he supports his opinion by very satisfactory arguments †.

To enter into a minute examination of all the incredible histories relative to this subject,

* Vid. Bonet. *ibid.*

† Histoire de l'Acad. Roy. des Sciences. Année 1741. p. 101.

ject, would be tedious and useless. Many of them are written in uncouth Latin, so obscure on some occasions, and so vague on others, that it is difficult to understand the author's meaning with precision. A polypus, it might easily be shown, has frequently been mistaken for the uterus, and perhaps the callous body, mentioned above in the quotation from Bonetus, was nothing but the womb itself disfigured by suppuration, or by schirrus. In contradiction to all such cases as those mentioned above, I imagine it will be generally admitted, that the uterus has seldom been much injured, and has never once been completely destroyed without a fatal event. This opinion might be confirmed both by considering the nature of the uterus, and by a number of well-marked instances, from among which I shall select the following.

The late Dr. Hunter used to mention, in his lectures, a case that occurred to himself, and it is perfectly in point. A patient distressed with a polypus, hanging from her womb, applied to him for relief. In extirpating tumours of that kind, every one knows that this celebrated Anatomist had uncom-

mon success. He began, as usual, by attempting to fix a ligature round the neck of the tumour, asking the patient, from time to time, if she felt any pain. Unluckily, he had informed her beforehand, that if the ligature pained her, it must be instantly removed; and she was so extremely eager to get rid of the tumour, that she resolved at all hazards to conceal her sufferings. At last, however, they grew insupportable. Then she confessed the truth, but too late. Her pains became more severe than those of labour, and she expired.

On opening the body, Dr. Hunter found, that the weight of the polypus had inverted the uterus partially, so that part of its substance had been included in the ligature.

Thomas Bartholinus * relates, that a woman of rank, the mother of five children, was delivered after an easy labour of her sixth child. In attempting to loosen and extract the placenta, the midwife brought out along with it something as large as the head of a child. She knew not what it was, but the women who were present assured her it was a preternatural growth, which they

they encouraged her to drag away. She began to pull, and persisted with great force till her ill-fated patient expired. While she lay at the point of death a physician examined her, and found her uterus completely inverted, pierced on both sides by the fingers of the midwife.

Ruyfch* mentions a case somewhat similar. A woman after childbirth had her uterus completely inverted. A quack having been called, he resolved to examine, with the lancet, a tumour of which he did not know the nature. He made a slight puncture only (*cultelli cuspidi leviter tumorem tetigit*) but so great a quantity of blood flowed from the wound, in spite of every application, that the woman perished.

Henricus ab Heers† says, he saw the consequence of an operation still more horrible. A mountebank undertook to cut off a tumour about the size of a goose's egg, from the cavity of the vagina. Henricus thinking the tumour might be the uterus, proposed a different method of cure, but being overpowered by the impudence and oppro-

* Observ. Anatom. xxvi.

† Observ. Medic. xxii. p. 192.

approbrious language of his daring opponent, whom he admonished in vain, he resolved to leave the room. He had not gone far when he was recalled by the shrieks of the by-standers, and by the groans of the patient, who quickly died in convulsions. The excrements issued from the orifice, because together with the uterus, the colon had also been cut.

To these cases, others equally authentic might be added, but these are sufficient to illustrate the danger of wounding the uterus, and to show the pernicious tendency of a maxim which some have been hardy enough to deliver. Having attempted to prove, that the uterus has in general no share in forming the tumours ascribed to it, one author, in all the pomp of rhetoric, addresses himself thus to the surgeon: "*Quod si occasione data, prolapsum ejusmodi uterum tollere concedatur, intrepido id perficere animo allabores quaeso, sic enim agrotanti salus, antiquitati errorum correctio, recentioribus, veritatis indagatio adferetur.*" Such a mode of speaking can

can never be too much reprobated, even though it should be supposed to allude to a polypus only.

There is reason to believe that the uterus has been inverted after child-birth more frequently than some authors seem to be aware of. Every practitioner must remember cases stated by midwives, where, after an easy delivery, the patient has been speedily cut off by a monstrous growth appearing in the vagina. Frequently these growths have not been accurately examined, but where an examination has taken place, they have been found to arise from the uterus inverted. Almost all writers on midwifery mention such cases. Ruysch was called to two in one week*, and he speaks as if similar calls had not been unfrequent. In this place, where midwifery is accurately taught, and cautiously practised, three instances are known to have happened lately, in two of which the inversion was complete. Such an accident, in a great majority of instances,

* *Observatio Anatom. x.* where he gives an excellent drawing of the appearance exhibited by the inverted uterus.

instances, produces floodings, convulsions, and faintings, which terminate in death. Of the very few who have survived an inversion of the uterus, the greater number have had it speedily re-placed, but the singularity in the case of our patient is, that she still lives, though her womb continues inverted. For some time, I imagined this to have been a solitary case; however, I find La Motte mentions two women, who lived many years with their wombs inverted. The statement of both cases is obscure and ambiguous in several respects, as will appear to any reader who will carefully peruse the passages containing them*. Perhaps in other authors, whom I have no opportunity of consulting, there may be similar cases, but this is of little consequence, the chief object being to ascertain how the case is to be treated, not to enquire how often it has happened.

As the best, in truth almost the only time for relieving the patient, is soon after the

* *Traité des Accouch.* Livre v. *Observ.* 425, 426. together with the whole of the xth and xith chapters. Leyden Edition, 1729.

the inversion has taken place, it is of the greatest importance to detect the accident early. When the uterus accompanies the placenta altogether without the external opening, the case is obvious: but this does not always happen. Sometimes the inversion is so partial, that no part of the inverted uterus descends below it's mouth; at other times, it descends below the mouth of the womb, but still continues concealed from the eye, in the superior part of the vagina. Mean time the patient is put to bed, and the nature of her complaint is frequently not been discovered, till the season for relieving it is past.

It may be difficult to specify any symptoms that can, in every case, lead to a certain discovery of inversion, before the inverted part shall descend within reach of the finger. The posture of the patient during labour; the celerity with which the child has come forth; the facility with which the placenta has been brought away; it's appearance afterwards; all these things must be kept in view; but the two following circumstances seem to claim peculiar attention: viz.

1st. The quantity of blood discharged. Whenever that is uncommonly copious, especially when the strength sinks speedily, the patient ought to be examined most carefully without losing a moment.

2dly. The nature and degree of the pains which remain after delivery. Fatigue, distension of parts, and other obvious causes always do, and always must leave a sensation of soreness after the pains of labour. This sensation, however, which often gives way to a gentle sleep, is not only inferior in degree, but is different in kind from the horrible pangs which accompany the inverted uterus. The back, the loins, the fore part of the belly and the thighs, are all exquisitely painful, while the uterus is thrown into convulsive contraction, so that the patient imagines she is about to bear a second child, or to lose some part of her bowels. Her strength sinks apace; the extremities grow cold; a clammy sweat bedews the forehead and breast; the pulse stops; excess of fatigue procures no rest; the patient falls into a syncope, from which she is never roused,

roused, or roused only by convulsions and delirium.

If, therefore, after the delivery of the placenta, violent expulsive pains, equalling or exceeding in severity those which attended birth, shall attack the patient, she ought to be examined instantly. Such an examination, unless the operator be deficient in skill or tenderness, can do no harm, and it may save life. That it is so frequently neglected in the beginning of such melancholy cases, is unpardonable: for, when the bottom of the uterus at first falls through the os uteri, it can be for the most part easily replaced, if no spasm has come on. The philosophical and elegant anatomist whom I formerly quoted, has left us a pointed example of this kind *. Having found the womb completely inverted, hanging down between the thighs of the patient, he reduced it, and the patient being laid in bed, with her thighs close together, she recovered perfectly. Another case which he mentions in the same page, terminated fa-

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tally.

* Ruysch, Decas Secund. p. 37. & seq.

tally. In this, the womb was so hard, and so much swelled, that it would not yield to the pressure applied. Ruysch adds, that this fatal hardness and swelling come upon the womb very quickly, and render the reduction impracticable. In one case, however, the ingenious Mr. White, of Manchester, seems to have surmounted these obstacles, merely by grasping in his hand, for some time, the body of the inverted uterus. Though immoveable at first, and though the first pressure occasioned great pain, grasping it with the whole hand, produced no dangerous effect; on the contrary, it's size diminished gradually, till it was fully reduced, after having been inverted above an hour, and the patient recovered as quickly as could be expected *. The case is most distinctly stated, and accompanied with several excellent remarks. How far a similar treatment may succeed hereafter, future experience must determine.

Reduction of the womb, though the most probable method of saving the patient, will

* White's Treatise on the Management of pregnant and lying-in Women. Second Edition, p. 430-6.

will not always be successful, even when it is performed speedily and completely. This assertion will surprize no one who understands the nature of the part affected.

The womb is at all times extremely irritable. Its internal surface, unaccustomed to the external air, is destined to receive from without no stimulus but one. During pregnancy its substance is thickened and its vessels enlarged; by the pangs of labour it is thrown into convulsive contractions, which increase the irritability of its fibres; and blood issues copiously from numerous points with which the placenta has been connected. This surface inflamed, irritable, and bleeding, suddenly exposed to the air, in a situation adverse to all its functions, may, and frequently does produce a train of deadly symptoms, which continue after the cause that originally excited them is removed, that is, after the womb which had been inverted is restored to its natural situation.*

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* On some occasions the placenta has been completely separated before inversion, on others it has adhered to the
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In order to avoid an accident which it is so difficult to remedy, the causes most likely to produce it ought to be considered with the greatest care. No doubt the uterus has been frequently inverted by the ignorance and temerity of the midwife, but it has sometimes happened under the most skilful management. Ruysch, whom no one will suspect of incapacity or rashness, says, that on one occasion, having extracted a dead foetus, and brought away the placenta, he observed the womb descending soon after, (*mox subsequentem*) but he replaced it in the manner formerly mentioned, and no bad consequence followed. This inversion Ruysch attributes to the exertions which the womb continues to make after delivery,* though it is possible that a partial inversion might have taken

inverted part. In this case, ought the placenta to be separated before reduction is attempted? If it is not separated, the part to be reduced will be more bulky, consequently more difficult to reduce; if it is, a great quantity of blood will be discharged from the vessels of the womb, and the irritation will be much increased. In general it will be safest to attempt reduction before we separate the placenta,

* Obs. Anatom. XI.

taken place before the complete separation of the placenta. From this case, however, as well as from many others, it is sufficiently evident that the womb may be inverted, in cases where no improper violence is applied to the umbilical cord.

Two circumstances seem to render the uterus peculiarly liable to this accident, first, the attachment of the placenta exactly to the bottom of it; secondly, the hasty delivery of the child.

Over the first cause we have no direct power. Where the placenta is thus attached exactly to the fundus uteri, its weight alone may produce a partial inversion, if the woman be in an upright posture, and if from any accident, the uterus should not contract itself speedily after birth. When any portion, however small, is thus inverted, the womb is stimulated to contraction; pains similar to those which accompany the expulsion of a child, come on; and the uterus is completely inverted.

Along with this unfavourable attachment of the placenta, authors generally mention the insertion of the cord exactly into its

centre. Such an insertion, if it ever happened, is luckily, extremely rare ; for no circumstance could be more dangerous. Were the placenta frequently placed in the centre of the uterus, and were the cord inserted exactly into the centre of the placenta, a very slight pull before the separation of the placenta, would be sufficient to produce inversion.

The second circumstance, viz. the celerity with which the child is delivered, is more under the management of the accoucheur. In animals assisted by nature alone, we often see the fœtus continue for some time in the vagina after one portion has been delivered, till a new pain coming on, forces out the whole. The same thing happens to women who are delivered without assistance, in an horizontal posture. Too frequently, however, the assistant interferes, and laying hold of the head, as soon as it comes within reach, labours to complete the delivery speedily. Now this practice has various inconveniences ; in particular, it exposes the uterus to the danger of inversion, because, being emptied

too suddenly, the womb is less apt to contract itself.* It appears probable that our patient suffered in this manner. The erect posture in which she continued from the beginning to the end of her labour, favoured the quick delivery of the child, and the assistance given by the midwife, contributed to produce the same effect. What was the consequence? The placenta seems to have fallen down without any pain, and by its descent the womb seems to have been inverted. If the delivery of the child had been a little retarded, by laying the woman in an horizontal posture, by declining to pull when the head appeared, or even, if necessary, by applying a gentle resistance to the head of the child,† there is reason to think the accident might have been avoided. The infant could not have been injured by the delay, and the portion of it which remained in contact with the irritable parts about the neck of the womb, would certainly have stimulated it to contract for the purpose

* Vide Mr. White's Treatise, p. 107 and 365, where the danger of delivering too hastily is fully pointed out.

† Ibid.

purpose of expelling the irritating cause. A gradual contraction of this kind facilitates the separation of the placenta, for every one knows, that its connexion with the womb is weakened in proportion to the contraction of the uterine fibres.

If Mr. Watson or Mr. Hamilton had seen the patient soon after the uterus was inverted, they might probably have been able to accomplish a reduction, but at the time of their seeing her, the attempt could not be made, with any prospect of success, or indeed with safety. There now remains no hope of being able to replace the womb; the patient, therefore, though she may continue to live, is lost to society as a mother. Her constitution too is considerably injured, and the pain occasioned by any vigorous exertion, renders her, in some measure, unable to assist her family. She does not know her situation precisely, but she is sure something is wrong within her, for which she expects no remedy.

Glasgow,

November 27, 1787.

XXI.

XXI. *The History of a Contraction of the Fore-arm and Fingers, with some Remarks and Reflections on Bleeding in the Arm.*
 By MR. HENRY WATSON, F. R. S.
Senior Surgeon of the Westminster Hospital.
Read February, 19, 1788.

THE following case, having been attended with many curious circumstances, may perhaps appear interesting to the Society, as pointing out a mode of saving a limb, that might otherwise be condemned as incurable.

On the 26th of December, 1752, when I was surgeon to the Middlesex Hospital, Susannah Bavin, aged twenty-six years, a tall woman, of a pale complexion, though rather strong and muscular, applied for admission. From her own account it appeared, that she had been blooded in the cephalic-median vein of the right arm, for a pain in her left side; that the vein not bleeding freely, the arm had been pressed, and squeezed, in order to get out as much blood as possible; that three or four days after,

after, a swelling of the whole limb had taken place, from the elbow to the fingers ends, attended with tension and deep seated pain; but the swelling now did not extend beyond the elbow, although the pain reached higher up, even to the biceps muscle. The orifice in the vein remained open, but there was no discharge from it.

Before she came into the hospital her arm had been fomented; the orifice had been dressed with a little ointment at the parish work-house; and several gentlemen of the profession had given her advice; from which, however, she had not received any material benefit.

Upon my first visit to her at the hospital, I found the arm œdematous, from considerably above the elbow to the tips of the fingers, with a redness on the skin the whole way, the deeper seated parts being very tender to the touch. Her hand was clenched as close as possible; her elbow was bent at a right angle with the upper arm; and she complained of violent pain in all the finger joints, and about the insertion of the tendon of the biceps muscle.

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The elbow joint, with the whole hand, being thus strongly contracted, she could neither open her fingers, nor extend her arm, or even make an effort to do it; for the least motion was scarce bearable: so that in this state the limb was quite useless.

After she had been about a week in the house, she was suddenly seized one morning, with a throbbing pain under her right breast; such as commonly precedes the formation of matter, though without any apparent change in the skin. The continuance of this pain induced me to open the part freely with a lancet. Nothing indeed was discharged but a little blood and serum; yet was she, the same day, entirely freed from pain. It was therefore to be hoped, that a free discharge from this wound, might produce some considerable alteration in the contracted limb; but none followed.

The wound had been kept open a long time, and was now filling up, with very healthy granulations, so that it was suffered to heal. But the cicatrix was no sooner formed,

formed, than the pain returned with more violence; and the whole breast swelled considerably. A warm plaister was applied without any benefit. The mercurial ointment rubbed upon the part, dispersed the swelling without removing the pain, which continued a full fortnight longer, but at length gave way to a volatile mixture taken internally; nor did it return to this part ever after. She had now been six weeks in the hospital, and during this period, the arm and hand had been every day fomented, embrocated, and poulticed; and the applications for these purposes had been frequently varied, but all without effect. She had likewise been blooded in the neck, and once in the sound arm; had been purged at times; had taken anodynes every night; with various other medicines, which need not be specified, as they afforded no other advantage, than that of removing the œdematous swelling, and redness of the skin; thereby, indeed, restoring the limb to its natural size and complexion. The tightness extending from the biceps muscle, more than half way down the limb, had
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not given way in the least ; the situation of the fore-arm and hand remained just the same.

After the use of so many relaxing applications, we were advised to try, if by force, we could straighten the arm. This was to be done with caution ; and we soon found that no moderate exertion could make any impression on the elbow joint. As to the fingers, we endeavoured to pass down between them, a smooth round piece of wood, not larger than a quill, in order to dilate them gradually : but the pain from this attempt was so acute, that it threatened convulsions, and we were obliged to desist immediately.

Convinced how imprudent it would be to persist by force in our attempts, either to open the fingers, or straighten the arm, it was now difficult to determine what farther could or ought to be done.

The arm had been well, and perfectly free in all its motions, before the blood-letting. This consideration led me to a more deliberate examination of the whole limb ; and as I perceived, though obscurely, some-

something like a deep seated fluctuation a little above the elbow, I determined to make an opening in that part.

Accordingly, on the 12th of March, several gentlemen being present, I made a free incision above the elbow joint, between the *Brachæus internus* and the origin of the *supinator radii longus* muscles, being the precise part in which I thought I had felt the fluctuation; but not the least drop of matter was discharged. The seeming fluctuation had probably been occasioned by the tension of the fascia; for by cutting through this tendinous expansion, she was greatly relieved. All her fingers were released immediately; she could now open and shut her hand, and had the power of using it freely; but the elbow joint remained in the same state as before the operation. The next day she continued easy, and the wound was dressed with a view to keep it open; but with all our endeavours it lessened gradually, and in three weeks was perfectly healed. Immediately upon this, the fingers drew up, and were soon as much contracted as ever.

Recourse

Recourse was again had to a variety of emollients in different forms, but with no good success; as might indeed have been expected, from our former experience of their inefficacy. The pain returned at times, and was so violent, as to threaten convulsions.

The advantages gained, though of but short duration, led me to think that a larger wound might afford a greater and more lasting relief; and as I found the same kind of obscure undulation as before, just below the external condyle of the humerus, I determined to make another opening there.

It was again in the presence of many respectable practitioners, and before several of the pupils, who were all witnesses to my proceedings, that I made a second wound, much deeper and larger than the former; for it was extended above three inches in length, through the body of the supinator longus muscle. Not only the fingers, but the elbow joint instantly became free. She was immediately released from pain and tightness; and could now almost straighten her arm, and turn it any way.

The wound was dressed with lint and digestive ointment; a piece of cloth was pinned loosely over the dressing, but no roller was applied at this time.

Some days after, the dressings were changed for more stimulating ones. The precipitate powder, and the caustic stone, were occasionally applied, to preserve the wound open; and to keep up a free discharge as long as might be convenient. The arm was now rolled on a stiff paste-board, to keep it extended; and she was directed to hold a weight frequently in her hand, to counteract the flexors of the fingers.

Notwithstanding all this precaution, the arm, after a time, began to get a little tight about the insertion of the biceps tendon. At length the wound being nearly healed, she was discharged the house, but continued on the books as an out-patient. At this time only a little stiffness remained at the bend of the arm. She was desired to embrocate it with neats-foot oil, and to use the limb as freely as she could.

Three

Three weeks she continued at her own home. In the first week the wound was perfectly healed, and the arm began to draw up, with great pain in the biceps tendon. In the second week the fingers drew up, the contraction beginning at the elbow, and proceeding downwards, with great pain in all the joints; the hand being so strongly clenched, that the fingers could not be opened by any common force; so that in the third week she was in quite as bad a state as ever.

It was in the fourth week that she returned to the hospital, with a resolution to have the limb amputated; but as I would not consent to the taking off her arm as yet, she said she would willingly submit to any thing else I might think proper to do.

Considering what benefit had been gained from the second operation, amounting, in appearance, to an almost perfect cure, it was the opinion of some gentlemen, to whose judgment I was willing to submit, that another still larger and deeper incision, made in the very same part, might at last succeed effectually. I agreed to the pro-

posal, though in my own mind, doubtful of the event: for having seriously reflected on the advantages gained, and the advantages lost, I could not help drawing a conclusion, that if permanent relief were to be obtained, it must be from a wound made in some other part of the limb.

However, in the presence of the late Dr. Hunter, and in a large assembly of the faculty, I performed a third operation, agreeably to all their requests. I began my incision close upon the edge of the former cicatrix, and made a wound near six inches long, and down to the periosteum, which once more set free every part.

I took her again into the hospital, and for about a week she went on pretty well; but then the elbow joint beginning to stiffen, I ordered the fore-arm to be moved to and fro, every day; and afterwards to be rolled to the very fingers ends, over the strongest paste-board that could be procured, in order to extend every part of the limb equally and fully; and thus to keep it upon the stretch as much as possible. But the pain increasing to a considerable degree, we were obliged to remove the pasteboard,
after

after having continued to apply it above a week.

Some time after, Dr. Hunter calling upon me very early one morning, we went together to visit this poor woman, and found the biceps tendon very rigid, with the wound half healed; I had it dressed with a strong digestive ointment, and renewed the application of the pasteboard and roller; we left her tolerably easy, and came away together. We were not got far from the hospital, when the nurse came running to tell us, that the woman's arm was drawing up again. We returned immediately, and found it but too true. A sudden spasm had seized the whole limb at once; the pasteboard indeed was still on, but not having power to resist the force of the muscular contraction, was bent up as if it had been a piece of common writing paper. We found the fore-arm fixed at a very acute angle, almost in contact with the upper arm; and the fingers as strongly contracted as ever. I asked, how it felt to her, as the fingers were clenching; her answer was, that "they drew up tighter and tighter, just

“ as when a chord is drawing closer and
“ closer.”

A blister was now applied to the inside of the upper arm, which gave her very little pain; but she complained of great uneasiness in the body of the biceps muscle, with heat and throbbing, as if matter were forming there. The breast also became full, but subsided on the application of a common poultice. The throbbing pain continued in the muscle, and she informed me that some “ sort of thick stuff” came from the orifice where she had been bled, when the injury was supposed to have been received. This part was fomented; after which a bread and milk cataplasm with unguentum mercuriale fortius was applied round the joint, and she took an anodyne at night. A redness had attacked the skin, covering the condyles of the humerus, with excessive tenderness on the least pressure, but no mark of suppuration; nor indeed did matter ever form any where. This redness and tenderness were soon removed. Nothing now appeared to come from the
orifice

orifice in the vein, and the limb remained in its pristine state.

On the 9th of June, several of my friends were invited to be present at a fourth operation, the effect of which I had determined to try, before I would consent to an amputation; as I thought it yet possible to save the limb, and was very anxious to do it.

In what I intended to do, there would have been some danger of wounding the humeral artery, therefore the tourniquet was first applied, near to the axilla. The arm being then held very firm and steady, I began an incision on the middle of the biceps, carrying it deep into the body of the muscle, in the same direction with its fibres, continuing it from the flesh into the tendon; which I also divided in the same direction, as low as I could with safety; that is to say, to a little below where it sends off the fascia, that envelops the muscles of the fore-arm, which are flexors of the fingers and wrist.

As soon as this operation was finished, the woman tossed her arm backwards and

forwards ; opened and shut her fingers with perfect freedom ; and declared nothing ailed her, but the smarting of the wound.

The great freedom and looseness in all the joints seemed much to surprise her ; “ Now,” said she, “ you have indeed cut the cord that bound up my limb. From all you did before, I never felt any thing like this, so loose and comfortable.”

A full month elapsed after this last operation, and during all that time she continued very easy, in good spirits, and with the free use of her limb. The wound was not yet quite healed, and the parts round about the elbow joint remained still tender to the touch ; otherwise she had not the least pain,

There was a large discharge of lymph from an orifice like a pin hole, at the lower edge of the wound, which upon bending and extending the arm, flowed more freely ; being, no doubt, supplied from a divided lymphatic. A solution of blue vitriol, applied with a doffel of lint to the orifice, stopped this discharge in about three days.

Another

Another circumstance attending the wound was, that we could clearly distinguish by the touch a double line, or two ridges, like small strings upon the stretch, which were the risings of the divided borders of the tendon: when the wound was completely healed these were no longer to be perceived.

On the 28th of July she went into the country in good health; and some months afterwards, when I saw her again in town, she continued to preserve the free use of her arm.

I am aware that little stress can be laid on a single case, though ever so extraordinary; yet such a case may often put us on our guard; it may teach us not to despair, and may invite us to do something that never has been attempted before.

The case above related, at the time we treated it, was considered by every one as singular, and unprecedented. The treatment afforded novelty; the event may serve as a ground for reflexion and contemplation.

After mature deliberation, several surgeons were of opinion, that the practice might

might be extended to contractions in other limbs, or joints; but this must be left to future experience to determine.

I have great reason to believe, that in the contracted arm, with healthy muscles, and sound bones, it will always fully answer the surgeon's expectation. But so far as the treatment in one case, can support and authorize the like management of another, the utility of this practice may be confirmed by the following relation.

Mr. Bond, a very ingenious young artist, apprentice to Mr. Linnel, Carver and Cabinet-maker, in Berkley-square, fell from his horse, was blooded in the country, and after some time returned to town, with an arm and fingers contracted.

This accident gave him great uneasiness, as his business, indeed his livelihood, depended so much on the perfect use of his hands. His spirits were greatly depressed, and he was in ill health.

The late Dr. Taylor, who at that time lived in the Square, was immediately consulted. He prescribed medicines which soon restored the young man to better health and spirits. The contraction was considered

as spasmodic ; and it was expected a course of medicines would relieve it ; but after a sufficient trial, it was found that no alteration took place ; the limb remaining just in the same state, neither better nor worse. I was then desired to meet the Doctor, who listened to my reasoning upon the case ; and agreed with me in strongly recommending to our patient the necessity of an operation, as the only means likely to relieve him. " Do any thing you please," said he, " if you can but recover me the use " of my arm."

The operation was performed the next day. The fingers were not so much contracted as in the preceding case, therefore the wound was not extended so far.

I began an incision on the middle of the Biceps Muscle, and carried it down to the tendon, but did not divide the tendon, being persuaded that what I had done would be sufficient.

The operation had its full effect. The wound healed kindly and speedily. The patient's health was re-established ; and he recovered the perfect use of his arm.

Having

Having related one case very circumstantially, and another in a more general way, both tending to confirm a uniform mode of practice, permit me now to make a few reflexions.

In the human body, several of the muscles supply tendinous expansions, or Fasciæ, so disposed as not merely to embrace soft parts, but also to cover hard ones, such as bones, and their articulations.

The use of these expansions is very great. They support the muscles, strengthen and increase the muscular power when in action, confine and protect the blood vessels in their proper situation, supply the place of bone where a plate of bone could not so conveniently answer the purpose, give firmness with flexibility to the joints, and preserve the symmetry of the limbs.

From these considerations, it will easily be conceived, what inconvenience may be produced by a wounded, lacerated, or diseased fascia. But when a tendon, or its fascia, has been injured, the ill consequences are generally attributed to a bad habit

habit of body. It being a maxim with many, that a wounded tendon gives no pain.

Chefelden, in his Anatomy, observes,
 “ that a puncture of the tendinous expan-
 “ sion of the biceps muscle, is supposed to
 “ be always attended with grievous pain
 “ and inflammation ; and has, if we have
 “ not mistaken the cause, often proved mor-
 “ tal : yet many eminent surgeons have
 “ given instances of larger tendons being
 “ cut and stitched, without any bad symp-
 “ toms ; and we have seen them cut, torn,
 “ ulcerated, and mortified, without any more
 “ sign of pain than in other parts. So that
 “ I cannot see what the great mischief of
 “ pricking this tendinous fascia is owing
 “ to, unless in lying so much upon the
 “ stretch, which may be wholly avoided by
 “ bending the elbow, and turning the cubit
 “ prone.”

With submission to such high authority, it may be observed, that in our cases, altho’ the elbow was bent, and kept irresistibly so, the pain nevertheless continued with great violence. The fascia was evidently more on
 the

the stretch than if the limb had been straight. The mischief that followed must therefore have arisen from something more than the mere position of the limb.

Dr. Alexander Read, in his *Chirurgical Lectures*, informs us, "that the German surgeons esteem wounds of the Biceps muscle to be deadly. "Wounds," says he, "in the beginning and insertion of it, are most dangerous, because these parts are tendinous, and of an exquisite feeling."

Certain it is, that punctures of the fascia will be attended with more or less of inflammation.

Though the fascia be not much injured, the patient will soon complain of pain. Inflammation comes on; sometimes a little suppuration; the arm cannot easily be straightened, and there will be a degree of stiffness about the joints.

A poultice applied round the orifice, and keeping the limb bent on a pillow, or in a sling, will sometimes set to rights so slight an injury in a few days.

On the contrary, when the injury is greater, the inflammation will rise higher; the limb consequently will suffer much more,

more, and an obstinate contraction may be expected.

The pain and swelling may possibly be removed by proper applications, but the contraction will remain: because the fascia having been once inflamed, and thickened, will no longer yield to the play or action of the muscles.

When a tendon, or its fascia, is shortened and narrowed, all parts underneath it must be more or less confined. They cannot move of themselves, or be moved; and nothing but setting free the tendon, fascia, or perhaps both, can release them, or give liberty to the muscles to act with freedom upon the limb.

In the young woman's case above related, what was done at last should have been done at first. Had we made a free incision into the biceps muscle, and its tendon, in the direction of its fibres, we should have removed the whole contraction at once; which we were led to do step by step. She indeed got quite well at last, after suffering, certainly, some few unnecessary incisions: but it was a new case.

The

The treatment of Mr. Bond's arm is a sufficient proof that a single incision, made in the proper part, is amply sufficient. And the question in all these cases of contraction can only be, where shall we make our wound?

We may now be convinced, that although the fascia of muscles is ranged among the insensible parts of the human body, and may have but little feeling in its sound healthy state, it is nevertheless liable to great pain from inflammation, tension, and disease: in short, to all that great mischief which Mr. Cheselden could not see, or did not comprehend.

The contraction of the limb may arise from other causes, than from an ill-conditioned state of the tendon or fascia. It is very common after luxations and fractures, when from necessity a limb has been long confined in one posture, to have a stiff or contracted joint: but this, arising merely from habit, is easily remedied by time and the most common applications.

Fluids collected in the cellular membrane in the interstices of muscles, will stretch the tendons and fascia, and bring on that
degree

degree of contraction often to be observed in dropfical limbs ; but in fuch cafes the contraction is removed merely by fcarifications, which difcharge the fluid, and empty the cells.

The contraction of a limb may undoubtedly arife from fpafm, and in fuch a cafe electricity will often afford a temporary relief ; or perhaps a permanent cure of the complaint may be obtained from medicines. It may originate in the flefhy parts, when the mufcles are difproportioned, or ill-adapted to the bones ; or it may arife from diftortion, mal-conformation, caries, and anchylofis of the bones ; under all of which circumftances it, muft be out of the reach of furgery.

We fee instances of contracted limbs which perhaps at one period of life might have been cured, but which having paffed that time, at a more advanced age become incurable. Ill habits often produce them ; time confirms them, and gives that degree of permanency, which art can neither remove, nor rectify, as happens fometimes in the cafe of a wry neck, attended with a curvature of the vertebræ colli.

An operation, therefore, in these cases cannot take place; not from the difficulty or hazard in performing it, but from an impossibility that it can ever succeed, or be of service.

Remarks on Bleeding.

I have known it happen, that in bleeding, in the arm, both the vein and the fascia have been perforated by the lancet. The accident, from not having been understood, has been perhaps improperly treated. Upon stopping the orifice in the skin, the blood has collected and coagulated underneath the fascia, and has diffused itself through the cellular membrane to a considerable extent.

Such a case has been attended with great fulness of the limb, tightness of the fascia, contraction of the fingers, pain and fever, followed by abscess, mortification, and death.

Had the fascia at first been freely divided, and the collected blood cleared away, it would probably have healed as a common wound, and the succeeding dreadful symptoms might have been prevented, as they certainly

certainly were in a similar case, in which the fascia was early set at liberty by a free wound.

Now and then a lymphatic is opened in bleeding; and I have seen more than a tea-spoonful of clear lymph discharged for two or three days successively. This circumstance is disagreeable, and may alarm the patient, though its occurrence is of no bad consequence. A watery solution of blue vitriol will soon constringe the lymphatic, and stop the discharge.

If we are to open a deep seated vein that may be felt, though not seen, and which is sometimes buried in fat, we should dissect carefully down to the vessel, and then open it. Perhaps the securest way to open a vein running over a tendon, or lying upon an artery, would be to lay the lancet flat upon the skin, and open the vein sideways. In opening the external jugular vein, it will be better to fix the vein by gentle pressure betwixt the thumb and fore-finger, than to apply any sort of ligature round the neck. The stream may be directed into the cup or basin by a card.

the blood-letting is now so much in the hands of the ignorant, that surgeons are very seldom called upon to perform it. Our hospital surgeons best know the accidents that often happen from this operation among the common people. These accidents, indeed, seldom hurt the reputation of the bleeder, who having none to lose, still goes blundering on.

A watery humour of blue vision will soon confine the lymphatic, and stop the discharge.

If we are to open a deep seated vein that may be felt, though not seen, and which is sometimes buried in fat, we should dissect carefully down to the vessel, and then open it. Perhaps the safest way to open a vein is running over a tendon, or lying upon an artery, would be to lay the lancet flat upon the skin, and open the vein sideways. In opening the external jugular vein, it will be better to fix the vein by gentle pressure, between the thumb and fore-finger, than to apply any sort of ligature round the neck. The stream may be directed into the cup

or drawn by a card.

A. IXXX T 2 Blood

had ; this was of a slow and insidious nature ;
 in general a good and sometimes an uncommon
 XXII. *A singular Case of Abscess of the*
Liver which terminated favourably. By
 GEORGE SANDEMAN, M.D. Physician
 to the General Dispensary. Read March
 18th, 1788.

IN the month of June, 1786, a gentleman requested me to visit his daughter, a child about eight years of age, who had an uncommon swelling of the epigastric region, which made him very uneasy, especially as it gradually increased.

On examination, I found the lower part of the sternum, and the ribs on each side, considerably protruded; the liver was greatly enlarged, and its margin could be traced immediately under the false ribs of the right hypochondrium.

The chief history I could collect of the disease was, that she had had the whooping-cough to a violent degree in autumn 1784, so that her life was despaired of; that the following summer, during which she used sea bathing, the swelling had been first observed; that it had gradually increased and become

harder ; that she was of a costive habit ; had in general a good, and sometimes an uncommonly great appetite ; that she had been subject to frequent attacks of fever ; and that her strength and flesh had diminished.

As she had been long under a course of mercurials, and had taken a variety of other medicines, without advantage, I concluded little was to be expected from medicine, and therefore advised only the keeping her body open by gentle alteratives, supporting her strength by light nourishing diet, and employing gentle friction on the part.

A few weeks after this I was again sent for. Her complexion now was fallow, she had an uneasy pain at the præcordia, particularly on raising her body, in attempting a full inspiration, or on pressing the part ; she had also a cough, frequent nausea, and symptoms of fever : these complaints yielded to a gentle emetic, and to the use of aperient and saline medicines.

She had many attacks of the same kind, and was relieved by the same treatment. When I visited her at the intermediate times, her pulse was nearly natural, her stools, though

though costive, were tinged with bile, her urine appeared as in health; but she had more or less of a cough, and difficulty of breathing, especially on the least exertion; and although her appetite was uncommonly voracious, yet she evidently wasted.

On the 12th of December I found matters drawing to a crisis. The pulse was now very quick, and the heat and thirst in proportion; the difficulty of breathing and the cough were very troublesome, especially when she was sitting upright; and she complained of a pain at the top of the left shoulder, but her greatest pain was at the præcordia, upon which she could not bear even the weight of the bed-cloaths.

On examining the swelling, I perceived an apex forming, immediately under and on the right side of the cartilago ensiformis, which in two days, notwithstanding the antiphlogistic plan was continued, became soft, and spread to the size of a crown piece, with evident marks of fluctuation.

I now proposed a consultation with some other medical gentlemen, and accordingly Dr. Carmichael Smyth, and the late Mr. Pott, were called in. They concurred with me in opinion that matter

was actually formed, and, considering the situation of the abscess on the superior or convex part of the liver, near its edge, the thinness of the integuments, and the very reduced state of our patient, we proposed that it should be immediately evacuated; being convinced that although the success of such an operation, from the previously diseased state of the liver, was doubtful, the suffering the matter to lodge internally was still more precarious, as the chance of its bursting into the cavity of the abdomen, was much greater than that of its being evacuated by means of the ductus choledochus into the intestines. The parents, however, finding that we spoke so doubtfully of the issue of an operation, chose rather to leave the event to Nature.

The fomentations and poultices were now laid aside, and a warm plaister applied to the tumor. The patient continued to waste daily, and notwithstanding she took great plenty of nourishment, had very soon the appearance of a living skeleton. Her desire for food, and the quantity she ate, was such, that I found it necessary to unload the bowels occasionally by clysters and gentle aperients; the only other medicine given, was

was a preparation of the bark, with, now and then, an opiate, as her sleep was much interrupted by the pain.

The abscess continued to increase in size, descending gradually on the right lobe, and raising the ribs over it more and more; a warm plaister was therefore now applied over the whole of the side affected.

On the 5th of February she had a slight diarrhœa; the tumor was so large as to prevent her sitting upright, and from her weak fluttering pulse, and the increased difficulty of breathing, I expected a speedy termination would be put to her sufferings, either by the matter being discharged into the cavity of the abdomen, or by exhausted nature sinking into death.

On the 9th, aphthæ, which had been coming on for some days, covered the whole mouth; these, with an irregular pulse, cold extremities, and Hippocratic face, made me hourly expect her dissolution.

On the 10th, to my great surprize, she voided by stool about three pints of an exceedingly fetid matter, in which were large masses of a gelatinous substance, having the appearance of membranes. About half
that

that quantity was discharged next day ; and, for a week, more or less of the same matter continued to be evacuated.

I expected at first, from the suddenness and quantity of the evacuation, and from the faintness it induced, that my little patient would be unable to cope with her disease any longer ; but supporting her with bark, cordials, and nourishment, I found her pulse next day, regular, though quick, her breathing easy, the aphthæ abating, and her countenance altered, so that I began to entertain hopes, and her daily amendment confirmed my expectation, of a perfect recovery.

When the discharge of matter, which became every day less offensive, ceased, her return to health was rapid, for in three weeks she was able to walk about the room. The tumor had subsided, her flesh returned, her countenance began to assume its healthy look, and by means of asses milk, country air, and exercise, she regained perfect health, and has remained well ever since.

I am aware, that abscesses of the liver are frequently discharged through the intestines as in the instance now related ; but this case appears to be singular, from

the unfavourable seat of the matter on the gibbous part of the liver, so that a great portion of its substance must have been destroyed before it could have reached the ductus choledochus, and so have passed into the duodenum.

Again, when we consider the abscess as being not only on the convex surface of the liver, but near its edge, is it not wonderful, that it did not take a shorter course, and, through the less resisting parts, burst into the cavity of the abdomen?

Lastly, that a patient so greatly emaciated did not sink entirely, or become hectic from such a discharge of matter, seems clearly to prove, that the most unfavourable of such cases are not to be despaired of; and that where nature can be supported, she will exert her boundless resources both to get rid of what impedes her own operations, and to renovate and heal parts essential to the animal œconomy.

XXIII. *A Case of a Rupture of the Bladder
from a Fall.* By Mr. CHARLES MON-
TAGU, Surgeon of the Western Dispensary.
Communicated by Mr. PEARSON,
Surgeon of the Lock Hospital. Read Jan.
20, 1789.

J. S. aged twenty-eight years, on Saturday, December 20, 1788, about ten o'clock in the evening, fell upon his belly on the edge of a hatchway; he stood during a few minutes after the accident, and then fainted. I was called to him immediately, and proposed to take away some blood, but he refused to permit me; I therefore gave him a grain of opium, and directed him to go to bed. Two hours after the fall, he complained that he could not void his urine, but declined any offers of assistance, until about two o'clock the next morning, when his pain became so violent, that he said, "I might do what I pleased."

I now examined his abdomen, and found it rather tense; his pulse was small but regular; he had a strong inclination to void his

his urine; and vomited frequently. Ten ounces of blood were taken from his arm, another grain of opium was exhibited, and his belly was fomented; I also introduced a bougie into the bladder, but no water was evacuated. This treatment procured him some relief for about three hours; but at the end of that time, the pain and inclination to void his urine returned with increased violence.

At six o'clock the next morning, having procured a catheter, I introduced it into the bladder with some difficulty, and evacuated about eight ounces of bloody urine, by which he was considerably relieved. Still, however, my patient complained of great uneasiness; he could neither void his feces nor urine; his pulse was hard and full, his respiration was laborious, and he vomited almost incessantly. As he would not permit me to take away any more blood, I ordered a purging medicine, which was immediately rejected; several clysters were administered without any effect; the fomentation to the abdomen was repeated every hour; and as he retained opium upon his stomach better than any other medicine, it was exhibited with

with freedom. In the evening I took away with the catheter about a pint of urine of a natural colour.

I saw him again at five o'clock in the morning, on Monday the 22d, and found that he had passed a restless night. He requested me to draw off his urine, but I now failed in my attempt to introduce the catheter. No alteration was made in his medicines.

In the evening I took away about fifteen ounces of blood from his arm, and ordered him a saline draught in a state of effervescence, with ten drops of thebaic tincture in each dose; this medicine was retained. The clysters and fomentation were directed to be continued as before.

Tuesday the 23d. He had passed a tolerable night, but had evacuated neither feces nor urine; his pulse was small and quick; his tongue dry and rough; and the abdomen much distended. Another surgeon was now called, who attempted in vain to introduce the catheter; we therefore agreed to apply a blister upon the hypogastric region, and were determined to

to puncture the bladder if no urine should be voided before the morning.

In the evening we procured conveniences for making a warm bath, in which our patient was detained for about twenty minutes; and half an hour after he came out, an emollient clyster was injected, which soon procured an evacuation of urine and fæces, and consequently gave him considerable relief. Between twelve and one o'clock, he was again put into the warm bath, and experienced from it the same good effects as before. His medicines were directed to be continued.

Wednesday, December 24. He had passed a tolerable night, but his pulse was smaller and more frequent. He could now bend his body without suffering much pain, and voided some urine immediately after the injection of every clyster; but as his strength was evidently sinking, I ordered a cordial mixture with laudanum to be exhibited every hour. In the afternoon a hiccough came on, he became delirious, his pulse gradually sunk, and at seven o'clock in the evening he died.

Upon

Upon examining the dead body, I found the stomach and intestines much distended with air; the peritonæum was evidently inflamed; there was a great quantity of inflammatory exudation thrown out upon its surface, and about three pints of urine in the cavity of the abdomen. The urinary bladder was in a collapsed state, but upon raising it up, I discovered a rupture at its fundus, through which I could with ease introduce my whole hand.

It is but justice to myself to mention, that as I was merely a visitor on board the ship at the time of the accident, it was not in my power to give him immediate assistance, in the way that I should have thought proper, had we been in a more favourable situation.

I find a case similar to this related by Bonetus, who describes the symptoms that occurred, and the appearances on dissection, with great accuracy.

In that case the patient had been drinking, and was about to void his urine, when he met with the accident. He fell fifteen feet, so that we cannot be surprised at being told, that besides the rupture of the bladder,

der, there was much injury done to the other abdominal viscera. The catheter was used once, and some blood and urine drawn off, though afterwards nothing but blood came through the urethra. The patient died in forty-two hours after the accident.

The rupture in this case appears to have been much in the same situation, as in that I have related, for it is said, that "*Quæ ipfa circa fundum suum, qua rectum spectat intestinum, visa fuit plane dissoluta, ita ut vulnus ipsius hians ovum gallinaceum facile potuerit admittere **."

* Vide Boet. Sepulch. lib. iii. Sect. 24. Obs. 12.

XXIV. *A Case of Hydrophobia.* By Mr.
JOHN O'DONNELL, *Apothecary in London.*
Communicated by Mr. FORD. Read May
12, 1789.

JONH SLIGHT, a butcher's servant in Carnaby-Market, aged twenty-three years, and of a strong robust habit, had the misfortune, on Tuesday the seventh of October, 1788, to be bit in the calf of the right leg, through his stocking, by a large dog, without his having given the animal any provocation. It was with some difficulty that the dog was disengaged. The wounds were deep and somewhat lacerated.

Imagining the dog to be mad, he went immediately to his father, about three miles from town, and consulted a surgeon there, who, two hours after the accident, applied lapis infernalis to the whole of the bitten parts, and made a large wound, which was kept open, by repeated applications of the caustic, for a month. During that period he rubbed into the leg some strong mercurial ointment twice a day, but without produc-
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ing a salivation. It seems right to mention also, that the day after the accident, he began to take the Ormskirk medicine; and that it might not fail of success, he took double the quantity usually directed, and adhered in the strictest manner to the rules laid down for him.

During the digestion of the sore he continued at his business; and in about a month the wound being perfectly healed, he considered himself quite well. From that time he felt no more of it, and was seldom heard to talk of it, being quite free from all apprehension.

He went on in his business until Saturday the 5th of December, sixty days after the accident, when he felt a coldness in the foot of the bitten side, but supposed it to be caused by the coldness of the day.

On the day following (December 6,) the coldness, accompanied by numbness, extended to the knee; but still, in other respects, he was perfectly well.

On the 7th, he felt a slight pain in the knee, and the numbness extended up the thigh.

On the 8th, the pain and numbness were as the day before.

On the 9th, he found himself so much indisposed, as to be obliged to give up work; and at nine o'clock in the morning he went to bed.

During the whole of that day he ate nothing, but frequently drank, and complained much of thirst. In the evening, when he got up, and seated himself near the kitchen fire, his mistress observed that he was very dull, and seemed dejected; that he was almost constantly trembling, very silent, and seldom held up his head. He now perceived his leg to be somewhat swelled, but it excited in him no apprehension. He desired to have some buttered ale for his supper, with a view of producing perspiration, for he supposed he had caught cold. When he went to bed, which was about nine o'clock, he drank his ale, and ate some bread which had been sopped in it.

On the morning of December the 10th, his mistress finding he did not rise, carried up to him a basin of tea, with some buttered toast. He ate the toast, but did not attempt to drink; which his mistress observing, she offered him the tea, but upon putting the basin to his head, he was observed to tremble, and breathe quick.

Supposing

Supposing this to be occasioned by the steam of the tea, she cooled some, and gave it to him by spoonfuls, which he swallowed, though not without great emotion.

About eleven o'clock that day, when I first saw him, he complained of a pain in the loin and hip of the side which had been bitten; and observed that if that pain could be removed, he should be quite well. He sat up in bed while I felt his pulse; which was quick and weak; his countenance was not perceptibly altered (for I had known him before); his tongue was moist, red in the middle, and a little white at each side. He said he had passed the most restless night he had ever experienced, and begged of me to give him something to make him sleep. He had made water in the night, but had had no stool. His skin was of a temperate warmth, and rather moist. He complained to me of the difficulty he found in swallowing liquids; but on my telling him how necessary they were for his recovery, and my begging him to try to drink, he attempted it, but with such agitation and apparent dread of suffocation,

focation; as convinced me that he laboured under hydrophobia.

I apprized his master and mistress of the nature of his disease, he himself having no apprehension of his situation. In my way home I met Mr. Ford, surgeon, of Golden-square, who expressed a desire to see the patient, and afterwards did me the favour to attend with me during the whole of the disease.

A bolus of ten grains of musk, and two of opium, was ordered to be given immediately, and repeated every four hours.

We visited him again at nine in the evening; he had then taken two bolusses, which he said had done him much service, having entirely removed the pain in his loins; but they had procured him no sleep.

His countenance was now altered; his eyes had acquired a piercing wildness, and he darted them with great quickness to any thing that attracted his attention. On asking him what he felt, he said, "I feel nothing. I am now pretty well, and hope to be in my business again to-morrow."

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His pulse at this time beat one hundred and thirty strokes in a minute, and his agitation on attempting to drink was very much increased. He did, however, on being pressed to it, take a little wine and water out of a spoon, but he swallowed it with great rapidity, and with wonderful emotion. The mention of liquor agitated him much, and he said he could not bear the thoughts of drinking. His tongue and skin were as before. The bolusses of musk and opium were continued, and half an ounce of strong mercurial ointment was ordered to be rubbed on the throat.

Dec. 11th, at noon, when we visited the patient again, we found that he had taken four of his bolusses, had slept an hour and a half, and had made water twice; but he could not tell us the colour or quantity of his urine, as he said he did not like to look at it; and on pouring some into a glass before him as he sat up, he seemed almost suffocated, and threw himself down on his face, covering it close with the bed cloaths, with marks of the utmost agitation. On being desired to tell us what he felt, he said, a slight pain in his back at the right

side, and that he was rather weak. He had no pain in his throat except when he saw liquids, or attempted to drink. He was now evidently much worse, but he was still perfectly rational, and seemed to be not in the least conscious of the nature of his disorder. His pulse was irregular, and exceedingly quick and weak; his tongue and skin were as before.

It was now deemed prudent to put on a straight waistcoat, but at the same time directions were given to leave his hands at liberty, unless his violence should make it necessary to confine them. A bolus, with six grains of opium, and a scruple of camphor, was administered, and an ounce of strong mercurial ointment was rubbed into the throat.

At two o'clock he became restless, very sharp in his answers, and wanted to get out of bed. Two men who were employed to watch him opposed it, which made him very angry, and he leaped up in bed. This caused a struggle between him and the men, one * of whom he bit in the finger,

* In March 1790, when the present sheet was going to the press, this person had experienced no ill effects from the bite.

ger, and he tore the other's face in several places with his nails. It required the assistance of ten or twelve men to get him into bed again, and confine him with the straight waistcoat; his legs were at the same time tied to the bed-posts.

At four o'clock I saw him again; he then raved and foamed at the mouth, and threatened those about him; made a most hideous noise; spate a vast quantity of tough white froth with great force, some of which adhered to his chin; his eyes were fierce, and his countenance very wild, forming altogether the most terrifying object I ever beheld.

He was now sensible of his unhappy state, talked of biting and spitting at those about him, and was making constant efforts to disengage himself from the straight waistcoat. The agitation, which formerly only appeared when he attempted to drink, was now constant, with a suffocating cough, which resembled more nearly the noise a dog makes when he has any thing in his throat he is endeavouring to get up, than any thing else I can compare it to; throwing

ing out with every cough a quantity of white frothy mucus. Though he lay in a garret, the noise he made was heard in the street. This noise, which was truly dreadful, was compared by the people about him to the howling of a dog; and indeed it required no great stretch of imagination to do so.

His unquiet state induced me to give him another bolus with six grains of opium, in hopes of quieting him; but it had not that effect. At half an hour past eight I saw him again with a medical friend, and his raving was then, if possible, increased. Upon soothing him, however, I brought him very considerably to his reason, and he gave very distinct answers to any question asked him. He complained of the pain in his back; and had made water several times involuntarily. He had no pain in his head, but said he was raving, and hoped he was not to be smothered. I assured him his disease was a common fever, and that he would be better the next day if he would keep himself quiet. This seemed to compose him much. I desired him to show me his tongue, which he

he put out uncommonly far, and it seemed much enlarged. When I left him his raving returned as bad as before.

I saw him, for the last time, about half after eleven o'clock at night, when he was much weaker. His raving was now changed to that sort of delirium which we commonly see in the last stage of typhus. His face on the bitten side was so much swelled, that his eye was completely closed; the other side was free from any swelling. Whether this arose from the mercury, from a blow during his struggle, or from the disease, I will not take upon me to determine; but those about him knew nothing of his having received any hurt.

He was now evidently dying, and about half past twelve he expired, after having been affected with hydrophobia thirty-nine hours and a half.

Thus ended a disease, of which I confess, notwithstanding all the cases I had read of it, I had no just idea, the present case exceeding in violence any thing that language can represent.

The failure of the means used for the prevention of the disease, in this case, is another

another proof of the inefficacy of the application of caustic to the bitten part; and should, I think, determine us to have recourse immediately to the only means upon which we can depend, viz: extirpation of the part by incision.

The popular reliance on the Ormskirk medicine cannot be too strongly reprobated, as it promotes in the person bitten a dependence upon a remedy which is totally inefficacious; and of course, by lulling the patient into groundless ideas of security, leads to the neglect of excision.

In my narrative of this case, I have confined myself entirely to an historical detail of the symptoms; and have avoided all theory and conjecture respecting its seat, or the manner of its production, in hopes that this, with other instances upon record, may, at some future time, assist the philosophic enquirer in forming the true theory of the disease.

XXV. *On the Medicinal Properties of the Muriated Barytes.* By ADAIR CRAWFORD, M.D. F.R.S. Physician to St. Thomas's Hospital. Read November 10, 1789.

IN the year 1784 I made several experiments and observations on the medicinal properties of the Muriated Barytes, from which I concluded, that it might probably possess considerable powers as a deobstruent.

This salt, when perfectly neutral, has a bitter taste; but the portion of it which was used in my first experiments happened to contain a small excess of acid, by means of which the bitterness was in a great measure destroyed, and its taste became somewhat similar to that of common salt. From this similitude it seemed not impossible, that its virtues might resemble those of the latter substance; and there could be little doubt that its activity would be greater, because the heavy earth, in several of its properties, has a considerable resemblance to a metallic calx.

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I moreover found, that a small quantity of the muriated barytes, when it was dissolved in water, and taken into the stomach, excited an agreeable sensation of warmth; and I had reason to believe that it would act gently as a laxative and a diaphoretic.

These facts led me to suppose that it would make a valuable addition to the materia medica. I was, however, at that time obliged, by my other avocations, to omit the farther prosecution of this subject. But last winter having acquired more leisure, I determined to resume it, and to give the salt a fair trial in scrophulous and cancerous complaints.

As its exhibition has, in a variety of instances, been attended with remarkable success, I shall beg leave to lay before the Society a brief account of all the trials which were made with it in cases admitted into St. Thomas's Hospital, prior to the month of June, 1789.

CASE

C A S E I.

THE first patient to whom I gave it, was a man who had long been afflicted with a cancer of the penis, and who laboured under the last stage of that deplorable disease. I had tried the common medicines without effect, and therefore considered his case as irremediable by any mode of treatment hitherto discovered.

It appeared to be justifiable in such a case to make trial of a new remedy.

For although in diseases that admit of a cure, it seems inconsistent with the laws of humanity and justice to prefer, for the sake of experiment, a doubtful remedy, to one that has been established by long experience; yet in the maladies for which no remedy has been discovered, it appears perfectly agreeable to the duty which we owe to society, to make a cautious trial of such new substances, as may appear from their sensible qualities to afford the most distant prospect of relief.

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I therefore began by prescribing for this patient two drops of a solution of the heavy earth in marine acid, to be taken in a tea-cupful of pure water twice in the day.

Perceiving that the medicine did not produce any disagreeable effects, I gradually increased the dose to six drops twice in the day.

His pains, while he was under this course, were less severe than they had formerly been, and the hæmorrhages of the penis less frequent and profuse.

But in a week or ten days his stomach, which was in a very irritable state, began to nauseate the medicine.

It therefore became necessary gradually to diminish the dose; and as, after a few days further trial, it was found even in the quantity of two drops to excite nausea, it was judged proper entirely to omit it.

Although I attended solicitously to the effects of the medicine in this instance, yet I could not perceive that it increased the secretions, either by the skin or the kidneys, or that it produced any other sensible effects, excepting those recited above.

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As it appeared however for a time to have mitigated the disease, I was encouraged to try it in some other cases.

C A S E II.

JAMES GOODWIN, a sailor, aged nearly thirty-five years, was admitted into St. Thomas's' Hospital as a patient under the care of Mr. Cline.

He had been attacked in the month of August, 1788, with pains in his left hip and knee, for which several remedies had been employed without success.

In the beginning of January, 1789, a hard tumor suddenly arose in one of the glands of the breast, which soon increased to the size of a walnut. This tumor was accompanied with an acute pain, extending across the breast to the sternum. It was not red or inflamed.

Having seen him in consultation with Mr. Cline, in the first week of January, I recommended pills consisting of one grain of calomel, a quarter of a grain of emetic tartar, and half a grain of opium to be taken

twice in the day; and Mr. Cline advised a soap plaister to be applied to the tumor of the breast. By these remedies the pains of the hip and knee were relieved, but no change whatever was produced in the tumor. The size and hardness of the gland remained undiminished, the pain that shot across the sternum was not mitigated, and the breast was sore to the touch.

Our patient moreover complained that his appetite was not so good now as it had formerly been, that his strength was somewhat lessened, and his general health impaired. For these reasons, on the 7th of February, the pills were omitted, and four drops of the solution of muriated barytes were prescribed, in a tea-cupful of pure water, twice in the day.

As the medicine did not produce any unpleasant symptoms, the dose was ordered to be gradually increased, with a view to discover how much the stomach could bear. In a few days it was found, that if the quantity given at a time exceeded eight drops, it excited nausea. I therefore deemed it proper to persevere in the use of the latter quantity.

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The first effects of the medicine in that dose were an increase of appetite, an unusual flow of urine, and an improvement in the general health of our patient. In a few days the pain of the breast entirely ceased, and in the course of a fortnight the tumor was completely removed. The drops were continued till the first of March, at which time, as the whole of the quantity that I had sent to the Hospital was expended, and the breast had remained well for a week, the medicine was omitted.

The pains of the hip and knee having in some measure returned, I ordered him half an ounce of the spiritus mindereri every six hours, and the following plaister was applied to his loins :

R. Emplast. e Cymino ℥ij.

Opii colat. gr. x.—M. S. A.

& fiat Emplastrum regioni lumborum applicandum.

These remedies relieved his rheumatic complaints, but in the course of a week a swelling appeared in the right breast, accompanied with a tenderness of the part,

and an acute pain in the sternum affecting respiration.

By the middle of March the tumor was increased nearly to the size of a walnut. I therefore again had recourse to the solution of the muriated barytes. It was indeed the earnest wish of the patient that I should repeat this medicine, for he affirmed that he never before used any remedy from which he reaped so much benefit.

The medicine was now ordered in the quantity of eight drops twice a day; but as in a little time that quantity occasioned sickness, the dose was diminished to six drops.

In the course of a few days the pain of the sternum, and tenderness of the breast, were removed, and in three weeks the tumor entirely subsided.

The medicine produced the same sensible effects as it had formerly done. It occasioned an increase in the flow of his urine, and an improvement in his appetite and general health.

On the 21st of April I found that his breast continued free from complaint, but that he had a slight return of the pain in

in his hip. I however ordered him to persevere in the use of the medicine, and when I again saw him on the 28th, all his complaints were removed. He was therefore dismissed cured, being desired, after he left the Hospital, to continue to take the drops for a month or six weeks.

It is proper to observe, that this patient had several scars in his neck immediately below the chin, together with a general redness in that portion of the skin that covered the parts adjacent. He affirmed, that this appearance arose from his having been scalded by hot water, which had accidentally fallen upon his neck at an early period of his life. I could not however help thinking, that the cicatrices very much resembled those produced by the healing of scrophulous ulcers.

C A S E III.

SARAH WOOD, aged eighteen years, was admitted into St. Thomas's Hospital as a patient under my care, on the 29th of January, 1789.

In April, 1788, a little tumor appeared on the lower part of her left nostril adjacent to the bridge of the nose. This tumor, after some time, broke, discharged a thin matter, and became covered with a scab. The ulcer however did not heal, but continued gradually to increase in size, till it crept around the lower and interior circumference of the nostril; the parts affected, like the original tumor, successively swelling, suppurating, and becoming covered with a scab.

When she was admitted into the Hospital the nose was very tender, and shooting pains were felt in it.

It is proper to remark, that soon after she was attacked with the complaint in her nostril, a red spot appeared on the corner of her nose, immediately below the inner canthus of the left eye, and that about the same time a pretty large herpetic blotch arose on the left arm near to the elbow. In all other respects she was in perfect health.

The first medicine prescribed for this patient, was a pill consisting of two grains of calomel, and two of precipitated sulphur of antimony, to be taken every night.

In a little time the disease of the nose seemed to be somewhat alleviated, and the herpetic blotch was evidently amended: but the medicine soon appeared to have lost its efficacy as to the former complaint: for although she persevered in the use of it during five weeks, yet, after the first fortnight, the ulcer in her nose shewed not the least sign of amendment. I therefore varied the medicine by giving her pills, containing a grain of calomel, a quarter of a grain of emetic tartar, and half a grain of opium, twice in the day. And after a little time, finding that no advantage was gained, I ordered four ounces of the decoction of sarsaparilla, and a drachm of the powder to be taken every six hours; the pills being continued night and morning.

These remedies, however, did not produce the least amendment in the ulcer; on the contrary, it continued evidently to increase till the beginning of April; although previously to that time I had successively made trial of the tincture of martial flowers, of extract of hemlock in the quantity of twelve grains, twice in the day, and of the unguen-

tum citrinum, and the corrosive sublimate.

At the above-mentioned period the extent of the ulcer was enlarged, and it had penetrated deeper than when she came into the Hospital, a greater portion of the bridge of the nose having been destroyed by it. There was moreover a considerable thickening of the skin and cellular substance around the edges of the sore, and it discharged as at first, a thin matter, which, by the evaporation of the fluid parts, formed itself into a crust upon the surface.

The pain of the nose was now much increased. Having exhibited so many powerful remedies in vain, I began to despair of success. I determined, however, as the last resource, to make trial of the muriated barytes.

This medicine was therefore prescribed on the 7th of April, in the quantity of four drops twice in the day, the dose being ordered to be gradually increased till it excited nausea. And as the herpetic blotch had evidently been diminished by the mercurials, the pill composed of calomel, and
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of precipitated sulphur of antimony, was repeated.

In a week after she entered upon this course, the pain of the nose was entirely removed, and the ulcers showed an evident disposition to heal; her appetite at the same time was much improved, and an unusual flow of urine was produced. The dose of the muriated barytes was gradually increased to twenty drops twice in the day. This is the largest quantity that any of the patients to whom I have given it, has as yet been able to bear without nausea.

The medicines having been continued for the space of a month, at the expiration of that time the state of the ulcer was much amended: but as during the last week the progress towards recovery had been very slow, and as my patient was naturally of a strong constitution, I ordered her to live upon a milk and vegetable diet every second day. The good effects of this change of regimen being very apparent, in a fortnight afterwards I enjoined a total abstinence from animal food and fermented liquors. From this time the thickened integuments around the edges of the ulcer became gradually softer, its size continued

continued to diminish, and at the end of three months it was entirely healed.

About a month before she left the Hospital, the red spot below the inner canthus of the eye had swelled, suppurated, and healed, and when she was dismissed, the herpetic blotch of the arm was completely removed.

As I was apprehensive of a relapse, I advised her to persist in the use of the muriated barytes for several months, and to adhere strictly to a milk and vegetable diet.

It may not be unworthy of notice, that although in this case, after my patient had been confined to a milk diet, the disease continued constantly to abate, till it was entirely removed, yet the progress of the cure appeared to suffer a kind of fluctuation, for every second week it evidently advanced considerably faster than it had done the week before.

C A S E IV.

ALEXANDER SIMPSON, aged twenty-eight years, was admitted a patient under the care of Mr. Cline, on the 6th of Nov. 1788.

He had got his right foot bruised on the 16th of the preceding October, in consequence

quence of which the joint of the ankle swelled to a considerable size, the tumor being red, inflamed, and very painful; the skin of the ankle, on the day that he was received into the Hospital, broke in four places, and a thin matter was discharged. For this complaint, a variety of the most effectual external remedies were applied, by Mr. Cline's directions, during the space of several months, but the disease did not give way. On the contrary, it continued to increase till the 6th of April, 1789, when I visited the patient, in consultation with that gentleman.

The leg was now considerably wasted, the ankle was of a dark, red colour; it was stiff, painful, and much enlarged, and the ulcers continued to discharge a thin, acrid matter. A sinus was, moreover, formed in the interior part of the tumor, which suffered a probe to penetrate obliquely, until it reached the bone; and Mr. Cline assured me, he could distinctly perceive that the bone was diseased.

It was not probable that this complaint would yield to any of the remedies in common use.

We were, therefore, of opinion, that it would be necessary to have recourse to amputation. But as the muriated barytes had produced a remarkable effect in the case of Goodwin, recited above, it was thought proper to give it a fair trial.

Our patient began by taking from six to ten drops of the solution twice in the day. The success attending the exhibition of this remedy exceeded our most sanguine expectations. Its immediate effects, as in the two preceding cases, were an increased secretion by the kidneys, and an improvement in the appetite and general health.

In a little time, the redness and swelling of the ankle began to diminish; the pain abated, and the ulcers showed a disposition to heal; and by the beginning of May, the complaint was so far subdued, as to give us reason to conclude, that amputation would not be necessary.

The dose of the drops having been gradually increased to ten, twice in the day, he was, on the 12th of May, suddenly attacked with a vertigo. I could not learn, from a strict enquiry, that the medicine before this time had produced giddiness of the head;

head; nor was its exhibition, on the day to which I have alluded, immediately attended with that effect; for the medicine had been given in the morning, and the vertigo came on in the forenoon, soon after he had made a hearty breakfast.

This attack was accompanied with a considerable degree of stupor, which in some measure rendered him incapable of giving a rational answer to the questions which were asked him. It was likewise attended with a frequent pulse, an increased heat, and a loss of appetite.

Some of the Medical Gentlemen who were present, attributed these symptoms to the muriated Barytes. But I confess, I could not help considering them as the effects of fever. Several of the patients in the ward were at that time labouring under a Typhus: and although, by an attention to cleanliness and ventilation, the utmost care was taken to prevent its spreading, yet it seemed very probable that Simpson had caught the disease by infection. An attention to the manner in which he was attacked, confirmed me much in the truth of this opinion. For a stupor, or head-ach,

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is frequently the first symptom of the Hospital fever; the affection of the head being soon succeeded by a frequent pulse, an increased heat, and nausea.

I have found by repeated experience, that if, upon the first appearance of the head-ach and vertigo, before the nausea supervenes, the bark be exhibited in large doses, the disease will for the most part be speedily removed. Having, therefore, omitted the muriated barytes, I prescribed two ounces of the decoction of the Peruvian bark, and half a drachm of the powder, to be repeated every third hour.

In a few days, the giddiness of his head, frequency of his pulse, and increased heat, entirely disappeared; and as the disease of the ankle continued to abate, he was ordered to persist in the use of the bark.

On the 15th of May, the ulcers were completely healed. The bark was continued until the 25th; but during the last ten days, the ankle did not appear to gain ground. It was still stiff, painful, and much enlarged. For this reason, he again had recourse to the solution of the muriated barytes, which was prescribed in the quantity

tity of six drops twice in the day, the bark being continued every eighth hour. Upon the repetition of the drops, a very evident amendment took place; and by the 7th of June, the swelling of the ankle was entirely removed. Our patient then felt no pain in the joint, excepting a slight uneasiness upon motion. It was still very weak.

Upon examining him as to the sensible effects of the medicine, he said, that it had ceased to operate as a diuretic, but that his health and appetite were good; and he affirmed, that ever since he had begun to take the drops, he had slept much better than before. The bark was omitted in the month of July; but the drops have been continued until the period at which I now write, October 31, 1789. His ankle gains strength, and he has no complaint remaining in it, excepting weakness, and a slight degree of uneasiness when he attempts to move it.

It is somewhat remarkable, that the right foot is now rather smaller than the left.

C A S E

C A S E V.

HENRY THOMPSON, aged eleven years, was admitted a patient under the care of Mr. Cline.

In the beginning of the year 1787, he underwent an operation for a fistula in ano, by which the complaint was removed, and he continued to enjoy good health till the autumn of the year 1788. He had then a slight return of the disease; but it soon disappeared without the assistance of medicine. When the fistula began to abate, a painful tumor arose on the inner side of his left ankle, and at the same time his health and appetite were a good deal impaired.

External remedies were applied to this tumor for a fortnight, but as it did not seem disposed to suppurate, I prescribed in the first week of May from four to six drops of the solution of muriated barytes twice a day. Upon taking this medicine, there was an immediate improvement in his appetite and general health, the flow of his urine was increased, the pain of his leg abated, the skin

skin broke in several places, and discharged a thick whitish foetid matter. On the 9th of May his leg was almost healed. Having persevered in this course until the end of June, he was dismissed cured.

CASE VI.

JAMES HESKITT, aged twelve, was admitted a patient under Mr. Cline, on the 13th of May, 1789.

He had been for several months afflicted with swellings of the lymphatic glands in the neck, some of which suppurated, and discharged a thin matter. His health was in other respects good.

Having seen him, in consultation with Mr. Cline, on the 16th of May, he was ordered to take from three to six drops of the solution of the muriated barytes, twice a day. By this medicine the flow of his urine was much increased.

In a little time the tumors became softer, and were diminished in size; the ulcers healed, and at the expiration of five weeks he was dismissed cured.

C A S E VII.

ELEANOR GARRET, aged nineteen, was admitted a patient under my care on the 23d of April, 1789.

In the course of the winter she had been attacked with a fever, for which she was received into the hospital on the 4th of December. This complaint continued for more than two months, and left her in a very weak state. At the end of ten weeks she was attacked with a cutaneous eruption, extending almost over her whole body. This eruption appeared in the form of red pimples, which were attended with great itching, and soon became covered with scabs.

As it did not yield to the common remedies, and as her general health was very bad, she was advised to remove from the hospital for the benefit of fresh air. This change, however, did not seem to promote her recovery ; no favourable alteration took place in the state of the eruption, and she continued to be afflicted with slow fever, night sweats, and loss of appetite.

About

About a week before she was re-admitted into the hospital, a swelling appeared under the left ear, which increased nearly to the size of a walnut, but was not attended with pain. For these complaints I prescribed, on the 23d of April, from three to six drops of the solution of muriated barytes thrice in the day; and ordered the sulphur ointment to be applied externally to the eruptions. By these remedies her health and appetite were in a short time much improved, the flow of her urine was greatly increased, her night sweats were removed, and by the 12th of May the swelling under her ear had entirely subsided, the cutaneous eruption having at the same time disappeared.

As she now began to be troubled with pains in her limbs, I omitted the drops, and prescribed a pill, containing half a grain of calomel, twice in the day, by which the pains were removed; but after a little time, the pill and sulphur ointment having been continued, the cutaneous eruption again made its appearance. Having examined her on the 20th of June, I found that the latter complaint was very much

increased; that her appetite and general health, since the drops had been discontinued, were in some measure impaired; and that she was afflicted with a severe pain in her head. I therefore ordered the pills and sulphur ointment to be omitted, and again prescribed six drops of the solution of muriated barytes twice a day. As she did not sleep well, I likewise gave her a pill, consisting of one eighth of a grain of emetic tartar, and one third of a grain of opium every night. By these remedies all her complaints were speedily relieved. In a few days the pain of her head was removed; the flow of her urine was greatly increased; her pulse became natural, her appetite good, and the cutaneous eruption began to abate. She persevered in the use of the muriated barytes, till the middle of July, and as the cutaneous eruption and the symptoms of debility were then entirely removed, the medicine was omitted.

She was soon afterwards, however, attacked with hysterical complaints, to which she had been formerly subject. For these complaints the bark and asafœtida were prescribed,

prescribed, by which they were in a short time subdued, and she was dismissed cured.

C A S E VIII.

DEW BARNES, aged thirty years, in the month of May, 1778, caught a gonorrhœa, which was succeeded by a swelling in the groin. For this complaint he took many medicines, which he said did not make his mouth sore. In the mean while he lived irregularly, and drank freely of spirituous and fermented liquors. The bubo after some time suppurated and healed. But the running from the penis continued until the month of October, when he was attacked with the small pox. Upon this attack the gonorrhœa disappeared, and he soon recovered from the small pox, which was of the distinct kind. His general health, however, after his recovery from the latter disease, was much impaired; and early in the winter of 1788, a tumor arose on the back of the left hand, which was red and inflamed, but not painful.

This tumor after some time was opened, and discharged a thin ichorous matter, but

did not show a disposition to heal. About the month of November he was attacked with an erysipelas in the face, and soon afterwards swellings arose in the lymphatic glands of the neck, which suppurated and discharged a thin matter.

In the mean time the disease in his hand continued to encrease,

As a variety of external and internal remedies had been tried, without producing any abatement in his complaints, and as it was suspected that he might possibly still have a venereal taint lurking in his constitution, he underwent, in the month of March, a slight salivation.

From this course, however, he did not appear to reap the smallest benefit; on the contrary, his health continued to decline; he became much emaciated; he had a low frequent pulse; was every evening attacked with cold shiverings; his appetite was impaired; he had much thirst; was afflicted with a troublesome diarrhœa; and his hand which had at first discharged only a small quantity of ichorous matter without pain, now broke out into a large painful ulcer, which discharged a bloody offensive matter.

For

For these complaints the bark with anodynes and mild astringents were prescribed; which in some measure relieved his diarrhœa, but the other symptoms continued with unabating severity.

Having seen him about the middle of May, in consultation with Mr. Cline, and finding that other remedies had proved ineffectual, it was thought proper to make trial of the muriated barytes. He was ordered to take, twice in the day, from four to eight drops of the solution in two ounces of the decoction of the Peruvian bark.

I believe I shall give a just description of the feelings of the medical gentlemen who attended, when I say, that they beheld with astonishment the change which took place in the state of our patient, soon after the exhibition of this remedy. The formidable train of symptoms enumerated above, began speedily to disappear, and by the 30th of June he was entirely free from diarrhœa, cold shiverings, and hectic fever; his appetite was as good as it had been when he was in perfect health; he had much increased in flesh, the tumors in his neck

were greatly diminished, and the ulcers nearly healed; the ulcer in his hand was considerably reduced in size, and the pain was entirely removed.

From the time that he first began to take the muriated barytes, he made a greater quantity of urine than he had ever done at any former period of his life.

Having examined him on the 14th of July, it appeared that his general health was good; that the swelling of his hand was much diminished; that the size of the ulcer was not more than half as great as it had been before he began to take the muriated barytes; and that he could move his fingers, which he had not been able to do for several months prior to the exhibition of that medicine.

In the beginning of August the ulcer in his hand was completely healed, and on 7th of that month he was dismissed cured.

C A S E IX.

ELIZABETH PARADISE, aged twenty-two, was admitted a patient under Mr. Cline, on the 27th of November, 1788.

In

In the month of November, 1787, she was attacked, without any apparent cause, with pain of the left knee, which was soon succeeded by a tumor uniformly surrounding the joint. When she was received into the hospital, the knee was swelled nearly to the size of her head; it was stiff and very painful. Her general health at the same time was much impaired. She had a strong and quick pulse, sickness of stomach, loss of appetite, cold shiverings, and night sweats. Soon after she was admitted, Mr. Cline inserted a seton in her knee, by which the swelling was considerably reduced, but the pain was not relieved.

On the 2d of May, 1789, I saw her in consultation with that gentleman. The state of her health was then nearly the same as it had been when she was first admitted; and her knee was still considerably swelled, and very painful. She was ordered to take from four to ten drops of the solution of the muriated barytes, twice in the day.

This medicine was continued till the 19th of May, when it appeared that her pains were not relieved; that her sickness of stomach was neither encreased nor diminished,

nished, that no favourable alteration had taken place in the frequency of her pulse, the cold shiverings, or the night sweats. She however made a great deal more water than usual; but as a troublesome diarrhœa had supervened, the medicine was omitted for the present. Two leeches were applied to the knee, and a mixture was prescribed, consisting of mint water, spirit of lavender, and the powder of columbo root, to be taken twice in the day. By these remedies her sickness of stomach and diarrhœa were in some measure relieved; but as little alteration was produced in her other complaints, I ordered her on the 10th of June, to live on a milk diet every second day. Soon after she entered on this course, a favourable change took place in the state of her general health.

I therefore, on the 25th of June, again prescribed the solution of the musiated barytes, in the quantity of eight drops, twice in the day.

Having examined her on the 10th of July, it appeared that her sickness of stomach and diarrhœa were removed; that her appetite was good, her pulse natural; that
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she was free from cold shiverings, and that her night sweats had in a great measure disappeared; that the pain of her knee was somewhat relieved; and that the flow of her urine had been greatly increased from the time when the muriated barytes was repeated.

On the 14th of July she was ordered to live intirely on a milk diet. In the course of a month after this period, her appetite and general health were perfectly restored; her left knee was reduced to as small a size as the right. For more than a week in the middle of July, it was intirely free from pain; but the pain soon after that time in some measure returned. Towards the end of the month, however, it again disappeared. This change seemed to have arisen from the exhibition of the Peruvian bark, which was now prescribed in conjunction with the muriated barytes. Having persevered in the use of these remedies till the 17th of August, she was dismissed from the hospital, being in all respects free from complaint; excepting that she had a considerable degree of weakness in her knee.

I shall

I shall briefly mention the reflections which occurred to me during the treatment of this case.

I considered the disease under which our patient laboured, as a scrophulous affection of the knee; and was led to infer from what I had observed in similar instances, that the muriated barytes was calculated to remove it. To what cause then was it owing, that upon the first exhibition of the medicine, no alleviation of the symptoms took place? I endeavoured to solve this difficulty in the following manner.

The animal body is a complicated machine, consisting of an infinite variety of irritable parts, that are in a continual motion; and it is necessary that the quantity of motion and of irritability in the several organs, should be preserved within certain limits, in order that each should perform its proper functions.

In the patient whose case I was considering, the motions of the vascular system evidently exceeded the limits of health; and it was apparent, from the extreme tenderness of the part, and the pain which she felt in it, that the knee was affected with a morbid irritability. In such a state of the
habit,

habit, it was possible that the exhibition of a tonic medicine (even although it were calculated to remove the cause of the disease) might be productive rather of injurious than of salutary effects.

We know that the Peruvian bark possesses powers which are adapted to the cure of an intermittent fever; but certain conditions of the system are required, in order that it should produce this effect: and from the failure of such conditions, we find that this disease sometimes resists the operation of that powerful remedy.

In pursuance of these ideas, I endeavoured, by confining our patient to a milk diet, to repress the encreased action of the heart and arteries, and to diminish the irritability of the system. I at first, however, prescribed that regimen only every second day, as I was apprehensive that dangerous consequences might arise from a sudden change in the mode of living. Having found, in a little time, that the inflammatory symptoms in a great measure disappeared, I was led to hope that the causes which had impeded the operation of the medicine, upon its first exhibition, were removed.

unmoved. The event seemed to prove that this opinion was well founded: and hence we may probably infer, that the muriated barytes will not be productive of salutary effects in those cases in which much inflammation is present.

It is proper however to remark, that although the efficacy of this salt appears in the foregoing case to have been counteracted by a tendency to inflammation in the system, yet I could not perceive that it increased the inflammatory symptoms.

I have indeed in a few instances observed, that this medicine excited action in parts which were very irritable; but in most of the cases in which it was tried, it was not found to possess a heating quality, or to produce an inordinate motion of the heart and arteries.

CASE X.

MARY CLARKE, aged twenty-four, was admitted into the Hospital, under the care of Mr. Cline, on the 2d of May, 1789.

At

At the age of seventeen she was attacked with a swelling of the right leg, which was accompanied with redness of the skin, and with much pain.

This complaint soon disappeared, and after a little time a similar swelling arose on the ancle of the left leg, which in the course of a few weeks inflamed, suppurated, and healed. Thus the disease returned, and disappeared, for several times successively; till at length an ulcer was formed in the left ancle, which continued during the space of six months to discharge a thin acrid matter.

In the spring of the year 1787 she was admitted a patient into the Hospital, where she remained till the month of April, 1788.

The ulcer of her ancle, soon after her admission, was healed by outward applications, and by the internal exhibition of a pill composed of calomel and of precipitated sulphur of antimony.

The removal of this complaint was soon followed by a painful ulceration of the great toe of the left foot, which was gradually healed by dressings, and by a perseverance in the use of the pill.

In

In the month of March she was discharged from the Hospital apparently cured; but in a short time the disease of her toe returned. She was therefore re-admitted under the care of Mr. Cline, on the 2d of May; when her complaints were as follow: A large painful ulcer on the great toe of her left foot, which discharged a thin ichorous matter; health much impaired; a pale countenance; a bad appetite; a frequent pulse.

Having seen her in consultation with Mr. Cline, I prescribed from four to eight drops of the solution of muriated barytes twice in the day.

Upon taking this medicine the secretions by the skin and kidneys were increased, her appetite and general health were improved, the pain of the toe was relieved, and in the course of a week the ulcer assumed a more healthy appearance.

She continued to amend slowly till the 1st of June, after which the ulcer of the toe appeared to become stationary. She was ordered on the 14th of that month to take every night a pill, consisting of one grain of calomel and one grain of sulphur of antimony,

limony, the drops being continued as before. Soon after she entered upon this course her toe again showed a disposition to heal: but as the progress of her recovery was slow, she was on the 14th of July confined to a milk diet every second day.

Having examined her on the 11th of August, it appeared that her health was much improved; that she had a florid complexion, a good appetite, and had increased considerably in flesh; that the edges of the ulcer were softened, and that its size was somewhat diminished. Since that time a small portion of the bone of the toe has exfoliated. At the period when I now write (the 31st of October), the ulcer is nearly healed; and as her health is perfectly restored, there can be little doubt, that in a few weeks she will be dismissed cured.

CASE XI.

CATHARINE WALLACE, aged twenty-seven, was admitted a patient under my care on the 25th of April, 1789.

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She had been troubled five months previously to her admission with a considerable swelling of both ancles. These swellings were not œdematous, but were covered with large scabby eruptions. In other respects her health was good. I first ordered her pills, consisting of calomel, emetic tartar, and opium, to be taken thrice a day. This medicine was continued for a fortnight without any apparent advantage. I therefore, on the 7th of May, prescribed from four to twelve drops of the solution of the muriated barytes twice in the day.

On the 25th of May the disease of her legs was nearly removed, but she complained of wind in her bowels, and said she had for a few days made rather less water than usual.

The muriated barytes was now omitted, and I prescribed two ounces of the decoction of bark, half a drachm of the powder, and thirty drops of the spiritus nitri dulcis thrice in the day. By these remedies her health was in a little time restored.

CASE

C A S E XII.

JOHN CANTWELL, aged nineteen years and a half, was admitted into the Hospital, under the care of Mr. Cline, on the 11th of April, 1789. His complaints were as follow :

Left foot, ankle and left knee swelled since Christmas ; the foot and ankle much inflamed and very painful ; the swelling of the knee not attended with pain or inflammation ; pulse frequent, appetite bad.

He was ordered to take from four to ten drops of the solution of the muriated barytes twice in the day.

In the course of a fortnight the swelling of the knee was much diminished, but the complaint of the foot and ankle was not relieved ; on the contrary, the pain and inflammation seemed to be somewhat increased. His pulse continued frequent, and little alteration was produced in the state of his general health ; the quantity of his urine was not sensibly augmented. As the drops however agreed well with him, he was or-

dered to persevere in the use of them, and two leeches were applied to his foot once a week.

On the 19th of May it appeared that the swelling of his knee was removed, that his foot and ankle were somewhat diminished in size, and that the pain was a good deal relieved. He then took ten drops twice in the day. Soon after this his friends, without Mr. Cline's knowledge or mine, removed him from the Hospital, for reasons which we could not discover. It seems extremely probable, that if he had persevered for a sufficient length of time in the use of the medicine, his health would have been restored.

The history of this case affords an additional proof of the tendency of inflammation to impede the action of the muriated barytes; for that salt appeared at first rather to aggravate the inflammatory symptoms of the foot and ankle, but the tumor of the knee, which was not inflamed, speedily gave way to it.

CASE

C A S E XIII.

MARY EVANS, aged thirty. In the month of November, 1788, she caught the venereal disease. For this complaint she underwent a regular mercurial course, by which the symptoms were entirely removed.

Towards the latter end of the month of December, she was attacked with a very painful swelling of the left elbow, which deprived her of sleep, and injured her general health.

This tumor was removed by mercurial pills, and by the application of poultices and fomentations; having omitted the mercury, the swelling in a short time returned, and increased to a considerable size; and in the beginning of the month of May, 1789, it broke out into a large painful malignant ulcer. Her general health was now greatly impaired. She was afflicted with a slow fever, with a loss of appetite, and was much emaciated.

Towards the latter end of May I saw her in consultation with Mr. Cline, and prescribed from four to eight drops of the solution of muriated barytes twice in the day.

Soon after the exhibition of this medicine her health and appetite began to improve; her urine was increased to thrice its usual quantity; the pain of the arm abated, and the ulcer assumed a better appearance.

She continued to recover until the middle of July. As it was, however, suspected that she had still a venereal taint in her habit, it was deemed proper, at that time, to give her small doses of mercury in conjunction with the muriated barytes. She was therefore ordered to take every night a bolus consisting of five grains of argenti vivum rubbed down with conserve of roses, and the solution was continued as before, twice in the day, in the quantity of six drops, which was the largest dose she could bear without nausea.

The addition of the mercury seemed to accelerate the progress of her recovery.

On the 20th of August it appeared that her general health was perfectly restored;
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that the arm was reduced to the natural size, and the ulcer entirely healed; and on the 1st of September she was discharged cured, being desired to persevere for some time in the use of the drops as an out-patient.

C A S E XIV.

BARNABY NASH, aged 24, was admitted as a patient under Mr. Cline, on the 15th of May, 1789.

He was suddenly attacked on the 24th of the preceding month, with cold shiverings, succeeded by heat and acute pains in his limbs. The next morning, the pain settled in his left knee, which swelled to nearly double its natural size. His complaints, when he was admitted, were as follow: Health much impaired; giddiness of head; sickness of stomach; loss of appetite; night sweats; increased heat; thirst; a strong and frequent pulse; knee much inflamed, and of a purplish red colour. The pain was so intense as to deprive him of sleep.

He was ordered to take eight drops of the solution of muriated barytes twice in the day, and poultices and fomentations were applied to his knee.

In a short time, the latter applications were changed for a soap plaister. Soon after he entered upon this course, he began to make a greater quantity of water than usual. He did not appear, however, in other respects, to experience any relief during the first fortnight. But at the end of that time, the pain of his knee became easier; his sickness of stomach, thirst, frequency of pulse, and giddiness of head gradually disappeared, his sleep and appetite returned.

On the 30th of May, the drops were increased to twelve twice in the day, and towards the middle of June, as he had still some degree of pain in his knee, he was ordered to take every night a pill, consisting of one grain of calomel, and one of precipitated sulphur of antimony.

Having examined him on the 3d of August, it appeared that the inflammation and tenderness of his knee were removed; that he had no uneasiness in it, excepting now and then a little shooting pain at night; that

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it was still somewhat larger than the other, but was much reduced in size; that his pulse was natural, his health and appetite good, and that he had gentle perspirations at night on his feet and hands, but did not sweat so profusely as before he came into the Hospital. He continued to make more water than usual. By the 11th of August, the swelling of his knee was nearly gone, and he had in some measure recovered the use of the limb. On the 17th of September, he was dismissed from the Hospital, being desired to persevere for some time in the use of the drops as an Out-patient. He had then no complaint remaining in his knee excepting weakness.

There were three other patients in the Hospital, to whom I exhibited the muriated barytes, prior to the month of June. The first was a man who laboured under the last stage of a pulmonary consumption. In this case, the medicine did not appear to be productive of any beneficial effects.

The second was a scrophulous patient, whose complaints upon the exhibition of the solution, began slowly to abate. He soon

soon afterwards, however, left the Hospital, and I have not heard of him since.

The last was a boy, who had tumors of the lymphatic glands of the neck, some of which had suppurated. In this case the medicine occasioned, in the course of a week, an evident abatement of the symptoms, and the boy appeared to be in a fair way of recovery; but after he had been a fortnight in the Hospital, he was attacked with a malignant fever, which proved fatal.

I have thus laid before the Society, an account of all the In-patients in St. Thomas's Hospital, to whom I exhibited the muriated barytes, during the months of February, March, April, and May.

By this detail, the Society will be enabled to form a much better judgment, of what may be expected from the medicine, than if I had related a few select cases only.

It appears, in general, that very little relief was afforded by it in the last stages of cancer and consumption. But in all the other cases in which it was tried, its exhibition was evidently productive of salutary effects.

Indeed,

Indeed, in some instances, it removed diseases, which, I believe, could not have been subdued by any other remedy; particularly in scrophulous complaints, in which it seems to have acted with a degree of force and certainty hitherto unexampled in the records of medicine.

When this remedy was given in a moderate dose, it appears, in a few instances, to have increased the secretion by the skin; in a great variety of cases it occasioned an unusual flow of urine, and it almost universally improved the appetite and general health.

It seems, indeed, to combine within itself the qualities of an evacuant, a deobstruent, and a tonic. I have sometimes observed, that it occasioned vertigo. This effect I ascribed in some measure to the nausea which it excited. Like every other active medicine, it would, no doubt, if administered injudiciously, be capable of producing deleterious effects.

In a considerable dose, frequently repeated, it would lessen the appetite, by the constant sickness of stomach which it would occasion; and in a still greater dose, it might
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be productive of much danger, by disordering the nervous system, and by operating violently as an emetic and purgative.

It is proper to remark, that the salt which was exhibited in the foregoing cases previously to the beginning of May, did not consist of the muriated barytes in a state of perfect purity.

It contained a small quantity of iron, combined with the muriatic acid.

It may, perhaps, be uncertain, whether the virtues of this compound may not exceed those of the pure muriated barytes. I have, however, sufficient reason to be convinced, that the latter substance is a very efficacious medicine; because the effects which have arisen from its exhibition since the beginning of May, are not inferior to those produced by the compound salt prior to that period.

Indeed, diseases and constitutions are so much diversified, that cases may occur, in which the combination of the salts, consisting of iron and of terra ponderosa joined to the muriatic acid, may be attended with more salutary effects than either of them could produce singly. From the history of
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the foregoing cases, there is, I think, reason to believe, that the muriated barytes is peculiarly calculated to correct the scrophulous diathesis: but when this diathesis is accompanied with great debility and with a languid circulation, the efficacy of that salt may probably be increased by the addition of muriated iron *.

It is moreover proper to observe, that most of the minerals from which the terra ponderosa is extracted, have a greater or less proportion of lead in their composition; some of them, are contaminated with copper;

* Whether the pure muriated barytes, or the barytic salt, mixed with a small proportion of muriated iron, possesses the greatest virtue, as a general medicine, can only be decided by attentively comparing the effects which they produce in a variety of similar cases. And, in order that others may have an opportunity of making this comparison as well as myself, I have given directions that these salts should be prepared by a very accurate Chymist, and sold by Mess. Pike and Crawford, No. 66, Leadenhall-street. I have also given directions, that these gentlemen should keep the tests necessary for determining the purity of the barytic salt.

It may be proper to remark, that in those cases in which the compound salt was used, saturated solutions of the muriated iron and muriated barytes, were mixed together in the proportion of a drachm of the former to an ounce of the latter.

per; and I have at present many specimens of aerated barytes that contain ramifications of mispikel, which is known to be an ore consisting of iron mineralized by arsenic. Hence the utmost caution should be used to obtain the salt perfectly free from an admixture of those substances. The careless preparation of active medicines, for the sake of avoiding expence and trouble, can scarcely be viewed with sufficient disapprobation. Although less malignant in its nature, it is altogether as dangerous in its consequences, as the fraudulent practice of adulterating salutary remedies with cheap materials, by which their efficacy is impaired, or they are rendered noxious.

As the muriated barytes is so liable to be contaminated by some of the most active metallic salts, which if they were mixed with it in a considerable quantity, would convert it into a virulent poison, I shall briefly point out to those who wish to purchase it for medical purposes, the method of determining its purity.

The solution of this salt in water should be perfectly transparent and colourless. If it have a greenish or yellowish colour, it
certainly

certainly contains muriated iron, and possibly some other metallic salts. We cannot however infer, from its want of colour alone, that it is perfectly pure; for the solution of muriated lead is colourless; and I have sometimes detected a considerable quantity of iron in a colourless solution of muriated barytes.

The presence of iron may be determined with certainty by means of the Prussian alkali; for if the solution contain iron, a small quantity of that alkali dropped into it, will occasion a blue precipitate; but if it contain the muriated barytes alone, the precipitate by the Prussian alkali will at first have a yellowish white cast, which, after it has subsided for some time, will become perfectly white.

Lead may be detected by means of a solution of liver of sulphur; for a small quantity of that solution being dropped into the liquor which we wish to examine, if the latter contain lead, a brownish precipitate will fall to the bottom, which, after it has stood for a considerable time, will acquire a dark hue.

A very

A very effectual method of detecting metallic salts, and of freeing the solution from all heterogeneous mixtures, is as follows. Let the heavy spar be decomposed according to the process recommended by Scheele and Bergman; and let a portion of the earth thus obtained be dissolved in pure marine acid. Let a separate portion of the same earth be rendered caustic by exposing it in a crucible, to a red heat, and let distilled water be poured upon it when cold. A small quantity of this barytic lime water previously filtered, being added to the solution of the earth in the marine acid, if the mixture remain transparent the solution is pure; but if not, it is contaminated with earthy or metallic salts. In the latter case let barytic lime water be slowly poured into the solution, till no farther precipitation takes place; and to the filtered liquor, let as much marine acid be added as may be necessary to saturate the superfluous earth.

By this method the solution may be rendered perfectly pure; it is, however, a laborious process, and should be conducted with the utmost care.

There

A gentleman in this place, Mr. Cruik-
shank (who assists in conducting the ope-
rations in the Chemical Laboratory at
Woolwich); has discovered a very delicate
test of the presence of metallic salts in so-
lutions of muriated barytes.

He makes a stream of pure hepatic air
pass through a solution of caustic volatile
alkali in water, till the alkali becomes satu-
rated with that fluid. A small quantity of
this liquor being added to the solution of
the muriated barytes, if the mixture re-
main transparent and colourless, or if it
only deposit a little white precipitate, the
solution is pure; but if it acquire a brown,
a dark green, or a black colour, it is con-
taminated with metallic salts.

The muriated barytes exhibited in St.
Thomas's Hospital since the month of May
1789, was obtained by the decomposition
of the heavy spar. Having procured some
specimens of a mineral which is sold at
Strontean, in Scotland, under the denomi-
nation of aerated barytes, I was in hopes
that the salt might be formed with less
difficulty by immediately dissolving that sub-
stance in the muriatic acid.

It appears however from the following facts, which have been verified by the experiments of my assistant, Mr. Cruikshank, as well as by my own, that this mineral really possesses different properties from the terra ponderosa of Scheele and Bergman. 1st. The salt which is obtained from the combination of the Strontean mineral with the muriatic acid, is much more soluble in hot water than in cold, and therefore easily chrySTALLIZES by cooling; on the contrary, that which is obtained by the combination of the true terra ponderosa with the muriatic acid, is very nearly as soluble in cold as in hot water, and consequently chrySTALLIZES chiefly by evaporation.

2dly. An ounce of distilled water, at the temperature of seventy, dissolves nine drachms and fifty grains of the former salt, but an equal quantity of water, at the same temperature, dissolves only three drachms and thirty-five grains of the latter.

3dly. The first, during its solution in water, produces at least fifteen degrees of cold; but the cold arising from the solution of the last in water does not amount to more than five degrees.

4thly.

4thly. A solution of the latter salt shoots by evaporation into thin octagonal plates, two of the opposite sides always considerably exceeding the rest in length; whereas a saturated solution of the former salt, when suddenly cooled, shoots into long filamentous crystals; and when it is cooled slowly, it crystallizes in hexagonal columns, which have three broad alternating with three narrow sides, and which terminate in obtuse trihedral pyramids.

From these facts it clearly follows, that the mineral which is sold at Strontean, for aerated terra ponderosa, possesses different qualities from that earth, although at the same time it must be admitted, that in many particulars they have a very near resemblance to each other.

As, however, they appear to be different substances, it was necessary to point out some of the characters by which they are distinguished, lest the former should be substituted for the latter as a medicine.

It is probable, indeed, that the Scotch mineral is a new species of earth which has not hitherto been sufficiently examined.

The barytic salt employed in the foregoing comparison, was obtained by the decomposition of a portion of heavy spar from the lead mines of Derbyshire. With a view, however, to avoid every source of fallacy, I requested Mr. Cruikshank to institute a comparative trial, between a specimen of the foreign heavy spar obtained from the Hartz in Germany, and the substance that has been vended at Strontean for the aerated terra ponderosa. All our experiments, however, have concurred to convince us, that the earth which enters into the composition of this substance, has different properties from that which forms the basis of the heavy spar.

Being desirous of examining the aerated terra ponderosa, which was analyzed by Dr. Withering, in his excellent paper inserted in the Philosophical Transactions for the year 1784, I was favoured by Mr. Babington * with a specimen of that substance; and I have found, agreeably to Dr. Withering's

* This gentleman, I understand, has for some time entertained a suspicion, that the Scotch mineral is not the true aerated terra ponderosa.

ing's experiments, that the earth obtained from this mineral perfectly resembles that which is procured by the decomposition of the heavy spar.

It may be proper to remark, that the substance discovered at Strontean nearly resembles, in its external appearance, that which has been described by Dr. Withering. They are both semi-transparent, and consist of slender spiculæ, which are closely in contact, and which at the same time have some degree of divergency; but the Strontean mineral has a greenish cast, whereas that described by Dr. Withering is similar in its appearance to a piece of alum.

It was observed by Mr. Cruikshank, that when a little marine acid was added to a saturated solution of the muriated barytes in water, a copious precipitation took place, and that the precipitate was quickly redissolved by the addition of water. In reflecting on this phenomenon it appeared, that it must have arisen from one of the two following causes, or from the joint operation of both.

1st. The affinity of the marine acid to water might be greater than that of the muriated barytes; in which case it is mani-

fest, that the acid would precipitate a portion of the salt, in like manner as neutral salts are precipitated from water by spirit of wine. 2dly. The heavy earth might be capable of combining in different proportions with the marine acid: it might form with that fluid, salts resembling soluble tartar and cream of tartar; the latter of which contains an excess of acid, and requires to its solution a much greater quantity of water than the former.

If the phenomenon arose from the last of these causes, it would follow, that the salt which was precipitated by the addition of the acid, would be less soluble in water than that to which an excess of acid had not been added. I have found, however, that these salts do not differ from each other in point of solubility. Whence it may be inferred, that the precipitation in question must have arisen from the first of the above-mentioned causes; that is, from the superior affinity of the marine acid to water.

It is proper to observe, that in preparing the medicine exhibited in the foregoing cases, a given quantity of water was first completely saturated with the muriated

barytes, and that to this saturated solution a little excess of acid was afterwards added. The addition of the acid in some measure deprives it of its bitter taste, and renders it more grateful to the stomach. It is necessary, however, that the quantity of acid which is thus added should be very small; for otherwise, the strength of the solution will be diminished by the precipitation of a considerable proportion of the salt *.

From trials which have been made with dogs it appears, that a very large dose of muriated barytes would prove fatal. I therefore think it necessary to caution those who are unskilful in medicine, not to tamper with this remedy. It is particularly my earnest recommendation, that after it begins to excite nausea, vertigo, or any other disagreeable symptom, the quantity should not be farther augmented, and that no adult should venture to increase the dose beyond eighteen or twenty drops, without the advice of a medical man.

* It is of great importance that a *saturated solution* should be used, in order that the dose may be adjusted with sufficient accuracy. And for the purpose of determining it with greater precision, the solution should be dropped from a small apothecary's phial, that the size of the drops may be nearly equal.

XXVI. *A Case of Dropsy, in which the Water has been twice drawn off by tapping the Vagina.* By Sir WILLIAM BISHOP, Knt. Surgeon at Maidstone in Kent. Communicated in a Letter to SAMUEL FOART SIMMONS, M.D. F.R.S. and by him to the Society. Read October 27. 1789.

TO DR. SIMMONS.

DEAR SIR,

IN compliance with your request, I with great pleasure communicate to you the particulars of the case, concerning which you have been pleased to inquire.

The patient, (Mrs. Rebecca Jarritt, of this town) is in her thirty-fifth year, and short of stature. In the year 1786, a few weeks after the birth of her fifth child, she began to complain of pain in the right side of her belly, and soon after this she was perceived to grow bigger. Opium, the Pilul. e Scilla, the Digitalis purp. and other remedies, in different forms and doses, were given, but with no good effect, as the dropsy continued to increase.

In

In the year 1787 she first perceived a prolapsus vaginæ, which gradually increased to the diameter of four inches.

On the 13th of May last forty-six pints of fluid were taken from her by perforating the vagina with a lancet pointed trocar, as recommended by your ingenious friend Mr. Henry Watson in the Medical Communications, Vol. i. p. 162.

Mess. Olive and Pout, surgeons, assisted during the evacuation of the water. The wound of the vagina soon healed.

Soon after the operation recourse was again had to the digitalis purp. squills, and other diuretics, but with no better success than before; for she filled again so fast, that it was found necessary two days ago to repeat the operation. The vagina, which again prolapsed, though not quite so much as formerly, was accordingly punctured as before near the former cicatrix, which was now nearly effaced, and fifty-one pints of fluid were drawn off.

A broad belt was put around her to support the parietes of the abdomen during the evacuation, and it was the employment of one person to be constantly tightening the
the

the belt; by which precaution she felt no inconvenience from standing, leaning on the back of a chair, during the time the water was running off, and which was nearly an hour. At my request she had consented to lay on her side during the operation; but finding herself uneasy in that posture, she desired to be permitted to stand up, which she did without being in the least faint.

Only a very few drops of blood followed the puncture of the vagina, and she feels no inconvenience from the operation.

I am, &c.

Maidstone,

WILLIAM BISHOP.

August 11, 1789.

XXVII. *Two Letters from JOHN COLLINS, Esq. of the Island of St. Vincent, addressed to BENJAMIN VAUGHAN, Esq. of London, on the subject of a species of Angina Maligna, and the Use of Capsicum in that and several other diseases. Communicated by Dr. ADAIR CRAWFORD. Read Jan. 19, 1790.*

LETTER I.

TO BENJAMIN VAUGHAN, ESQ.

DEAR SIR,

IN February of the year 1786, being at the house of a gentleman in my neighbourhood, in the Island of St. Vincent, I found his little boy, a remarkably fine child, about four years of age, indisposed.

He complained of a heaviness of the head, which he could scarcely keep from the pillow, accompanied with a foreness of the throat. He had no external heat greater than usual; and his pulse, though weak, was but little accelerated. Upon looking
 I into

into the throat, I found the tonsils covered with a thick white slough, and the posterior part of the uvula black and ulcerated. Alarmed at the appearance of a disorder, which I concluded to be the true putrid sore-throat, or angina maligna, I thought it my duty to apprise the parents of the dangerous situation of their child, concerning whom they had hitherto been without apprehension.

A medical practitioner in my neighbourhood was called in, who seeing reason to be of my opinion, administered the bark in large and frequent doses; and the fauces were deterged with gargles appropriated to the disorder, which appeared to gain little ground for three or four days. At the end, however, of that time, the patient was seized with a convulsive fit, which terminated in a hemiplegia. After this there was no examining sufficiently into the state of the throat, to ascertain the progress of the ulcerations; which, from the appearance of the lips and tongue, there was room to imagine had increased. Blisters were applied; and while some bark was got down by the mouth, much more was injected by glysters.

It

It is needless to enter further into the detail of this complicated disorder; therefore I shall only observe, that after a very long and severe struggle, through the course of two or three months, or more, during which his life was daily despaired of, the child, to the admiration of all who had seen him, recovered his senses and his speech, though he unhappily preserves to this day considerable remains of the paralysis.

I mention this case, as being the first of the true angina maligna that had occurred to me during eighteen years residence in the West Indies; though it might in that period have appeared to gentlemen engaged in the practice of physic; however I am certain, that I have seen slighter affections of the throat mistaken for it.

Soon after the attack of this child, I was informed by the manager of an adjoining estate, that he had lost two little negroes with a similar complaint of the throat; and in a few days one of my own was brought into the hospital with the same disorder.

Upon interrogating the mother, I learned that the child had complained the day before

fore of his throat, but so slightly, that had it not been for a caution I had circulated among the negroes, she in all probability would not have thought it of consequence enough to be noticed. She said he slept well, and ate with a pretty good appetite, though he swallowed with some difficulty. His body was regular.

Upon examining the child I found his lips a little redder than usual, his tongue considerably so towards the margin, and white and moist in the middle, the tonsils had a few rash-coloured spots, and there was a small ulcer, of the size of a silver penny, on the anterior part of the uvula. The other parts of the throat varied but little from their natural state. The submaxillary glands were enlarged, though not painful to the touch. In other respects, the child manifested so little sign of indisposition, that a person, ignorant of the insidious nature of the disorder, might have concluded him to have been in no danger at all; and indeed from symptoms so mild, I suffered myself to entertain but little doubt of his recovery. However, the sequel convinced me that I was mistaken; and that the disorder

order, was less tractable than I imagined. After premising a few drops of the antimonial wine, which puked him pretty roughly, I had recourse to the bark, and gave to the quantity of an ounce of it in powder every four and twenty hours. The uvula, tonsils, and fauces, were touched with some honey, acidulated with the spirit of vitriol, and cleansed, as well as it was possible to do with so young a child, with a detergent gargle.

Notwithstanding these remedies the disease gained ground. After three or four days the tonsils and uvula were deeply ulcerated, and covered with a dark coloured slough; and the ulcerations began to invade the back part of the throat. Hitherto the child had been free from fever, his pulse being almost in a natural state, his external heat not perceptibly increased, and he swallowed with more ease than could have been expected from the condition of his throat; though the glands were now swollen, and he testified uneasiness when they were pressed by the finger: however, he still sat up and moved as if little had ailed him.

Not

Not having committed to paper any minutes of this case, I am unable to say, precisely, on what day the fever began; but I think it was not until the sixth or seventh; when the pulse beat quicker, and the skin grew proportionably more hot, though soft and moist; and indeed there seemed to be a spontaneous and delusive tendency to diaphoresis from the first appearance of fever; which towards the close of the scene augmented to profuse sweats.

As soon as the fever commenced, the disease made a more rapid progress; the respiration became laborious, and was performed with a shrill rattling noise; the mucus on the tongue, particularly towards the root, hardened into a thick crust; gangrenous sloughs, which probably descended low into the alimentary canal, now covered all the parts that could be inspected; the pulse beat extremely quick and weak; and deglutition, hitherto performed without any considerable difficulty, now became troublesome, though the child swallowed whatever was offered. About the twelfth day profuse cold sweats broke forth, and respiration was effected with extreme difficulty,

difficulty, and with an appearance of strangling, as if a cord had compressed the wind-pipe. About the thirteenth or fourteenth day he died.

In a day or two after the child, whose case I have related above, had been admitted into the sick-house, a fine young mulatto girl, about six or seven years old, was brought to me with the same complaint. The submaxillary glands were swollen, and I ordered a blister to the throat, which rose well, and discharged plentifully; but on its removal the part looked white, and afterwards formed a crust similar to that at the root of the tongue. In other respects the child was treated like the former, taking only a larger quantity of the bark. The fever came on, as before, about the sixth or seventh day, and terminated in death about the thirteenth.

While these two children were under treatment, a third, of much about the same age, was brought to me with similar ulcerations in the throat, and underwent a like process. A blister having been applied, produced the same appearance as the former one had done. The series of symp-

toms and the termination were the same; that is to say, he died about the thirteenth or fourteenth day.

In the three unfortunate cases above narrated, which followed each other in such rapid succession, the phenomena and effects were so perfectly similar, as to render a separate detail of each unnecessary; but it is observable, that they all came into the Hospital *free from fever*, and remained so for six or seven days; though the ulcerations continued to make a considerable progress. There was a total absence of that redness of the skin, which so usually accompanies the ulcerated throat in Europe, and the strength of the children was not impaired, but they were able to sit up and walk about until the access of the fever. In short, so insidious was the approach of their malady, that while life itself was in the utmost hazard, the body did not appear to suffer indisposition.

The fatal termination of these cases created in my mind a very serious alarm, for the ravages of the disorder had not been confined to my estate, but had extended to others; and affected the white children as well

well as the negroes; a gentleman in the neighbourhood having lost his two sons by it within a few days of each other. At the first appearance of it I was led to expect that the bark, which had been administered with so much success in the ulcerated sore throat in Europe, would prove equally effectual in that with which we were now visited; but notwithstanding it had been given in circumstances peculiarly favourable, where the quantity taken was so very large, and so much time was allowed for its operation, it appeared totally inadequate to the evil, and I lost all confidence in its powers: at the same time, to add to my discouragement, I was given to understand, by those who had made trial of it, that the antiphlogistic method had been attended with no better success.

Weighing, therefore, the symptoms of the disease, and the different modes of treatment it had resisted, I could not help thinking that its first attack was local, and confined merely to the fauces and organs of deglutition; and that being of a nature so contrary to inflammation, a medicine capable of exciting a brisker circu-

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lations in the parts immediately affected, might tend to counteract their proneness to gangrene. Under this idea I had recourse to a remedy very well adapted to the purpose, which had some time before been published as an effectual one in these cases, in a letter to the printer of the Grenada Gazette, by Mr. Stewart, a gentleman of that island, who had formerly been a practitioner of physic. The active ingredient of this composition is the capsicum, or cayenne pepper. Mr. Stewart's directions for preparing and administering it are as follows:

"Take two table spoonfuls of small red pepper, or three of the common cayenne pepper, and two tea spoonfuls of fine salt; beat them into a paste, and then add to them half a pint of boiling water. Strain off the liquor when cold, and add to it half a pint of very sharp vinegar. Let a table spoonful of this liquor be taken every half hour, as a dose for an adult, diminishing it in proportion for children."

An opportunity for a trial of this medicine soon occurred; another little boy, much

about the age of those who had died, being brought to the sick-house with a like complaint in the throat, and swellings of the submaxillary glands. I ordered him two tea spoonfuls of the mixture, to be repeated every two hours. Negroes being accustomed from infancy to the use of pepper, he swallowed the dose with less uneasiness than might have been expected, for the space of four and twenty hours; after which he could, with difficulty, be prevailed on to take any more: the throat, by that time, being almost excoriated by the pepper; which I had reason to imagine, had been given rather more frequently than I had ordered. The appearances, however, were manifestly more promising; the sloughs cast off, and the throat became perfectly clean. Encouraged by this, I directed the mother to persist in the use of the mixture, using one tea spoonful every two or three hours; which she did, notwithstanding the resistance of the child; and by these means the patient recovered in a few days. None of the untoward symptoms supervened, nor did he experience a relapse on discontinuing the medicine.

While this child was under experiment, I was requested by a lady of my acquaintance, to see a negro girl about ten years old, who was attacked with the sore throat. Upon my arrival at her house, she told me that since the departure of her messengers, she had, on looking into the throat of her son, a little boy of three years old, who had been indisposed for three or four days, discovered ulcers; which on examination, I found to be the case; the child labouring, at the same time, under a difficulty of respiration, anxiety, restlessness, and so great a degree of fever, as convinced me that his disorder had passed several days unobserved; and that he was now arrived at that period of it, when his recovery was become extremely doubtful. However, I recommended the pepper mixture, but he could not be prevailed on to take it in any quantity; and not being myself, at that time, so well assured of its effects, I was unwilling to recommend force to be employed. Indeed the child, being froward, took very little either of that, or of any other medicine; and notwithstanding the endeavours of two gentlemen

gentlemen of the faculty, whom I desired might be called to attend him, he died in three or four days.—The negro girl, to whom I had been sent for, had very large discoloured sloughs and ulcers, which occupied almost the whole of the uvula, tonsils, fauces, and back part of the throat; yet she was without fever. She took the pepper infusion very freely; and notwithstanding on casting off the sloughs, in eight and forty hours, the part appeared in a high state of inflammation, and as raw as a piece of beef, she recovered; though it was three weeks or more before the throat was perfectly healed. In this case, however, it ought to be noted, that the bark accompanied the use of the pepper; but from subsequent experiments, I was led to rest my hopes of success on pepper alone.

The lady's daughter, a little girl a year older than her brother, having frequented him during his illness, I represented the probability of her being infected with the disorder, and had her sent to my house. As I suspected, in a day or two, aphthæ appeared on the uvula and tonsils. She had no fever, and swallowed, as all the
B b 4
others.

others had done in the early stage of the disease, without difficulty. I prevailed on her to take several doses of the pepper mixture, which operating, as usual, by rendering the fauces exquisitely sensible, she refused to take any more of it; but the ulcerations enlarging, a slight fever coming on, accompanied by a wheezing at each respiration, and her voice falling so low as scarcely to be heard, the case became pressing, and every art was used to induce her to make use of the pepper. When art failed, we had recourse to force; and by these means she recovered from a state which left little room to doubt a fatal issue, had the common remedies alone been employed.

Encouraged by the prosperous success of these experiments, which tended to confirm the assurances of the Grenada letter writer, in favour of the capsicum, I was induced to consider it as a valuable acquisition; nor had I reason to alter my opinion by such cases as occurred afterwards, though they were pretty numerous on my own estate, and on others with which I was connected. I lost no more

more children. The disorder appeared from that instant to be divested of its malignity; and I had reason to lament my not having profited earlier by Mr. Stewart's communication.

The disorder of the throat, which I have described above, was not confined to the Islands of St. Vincent and Grenada, but extended through the whole range of islands in that quarter; exerting its ravages with more or less violence, throughout the greater part of the last, and beginning of the present year. The principal objects of its attack were children, and other young people; who were, indeed, almost its only victims: for though adults were not altogether exempted, very few died of it, and such as I heard of that did were females.

Notwithstanding the ulcerated sore throat has of late years abated much of that malignity, with which it first made its appearance in this country, it is still in the recollection of many, that it has been a very formidable disease; against which the bark, in numerous cases, was administered in vain.

Should

Should it therefore, at any future period, resume its attack with such violence, as to resist other approved remedies of milder action, it may certainly be worth while to resort to the capficum, as an auxiliary at least.

I hope it will not be inferred from what I have said above, that I mean to recommend the pepper as an infallible remedy in putrid affections of the throat. My experience of its power, though encouraging enough, so far as it hath gone, is by much too limited to warrant such a presumption. I mean only to exhibit the singular success that attended it, in a species of the sore throat, which, without it, had proved extremely mortal. But then that species of the disorder was a very particular one; mild in its invasion; slow in its progress; in its early stage unaccompanied with fever; and in those cases that occurred to me totally without efflorescence: besides it was on the first appearance of the disease, before the fever came on, that the medicine was administered; and so far I think it my duty to bear testimony to its effects; leaving it to gentlemen of the profession, who are engaged

engaged in pursuits of that nature, and more competent to the enquiry, to ascertain by farther experiments, what advantages are to be expected from it, as well in that, as in other disorders of the human frame. There is, surely, reason to imagine, that a subject endowed with such palpable powers, may also possess medical efficiency. We have the evidence of sense for its activity; and ample proof of its innocence, when taken in the largest quantities.—But it is not from speculations alone that gentlemen are invited to the inquiry, for I am informed that Dr. Bancroft, the ingenious author of the History of Guiana, has been in the habit both of giving and taking it, with the utmost success, in the intermittent fevers of that colony; and I have known it used for the suppression of vomitings, which occur in the putrid fever of the island; a purpose which with due precaution, it appears well calculated to answer; as I never knew it to be rejected from the stomach when employed for the sore throat. It is also in common use, externally, for destroying the putrid ulcers, to which negroes are so subject;

ject; and I have heard from sensible French negroes, that pepper has been long employed by them in affections of the throat. It is not improbable that Mr. Stewart, though he has the merit attributed to him of having first made it known to us, may have taken his hint from that quarter.

Objections may, possibly, be made to the introduction of this medicine into practice, from the severity with which it acts on the first passages; but that is by no means so great, as persons inexperienced in its effects may imagine.

Though I conformed implicitly to Mr. Stewart's directions, for the composition and administration of the medicine, in order to bring it to a more decisive test, I was not satisfied of the necessity of giving it in such large doses; and indeed in some of the later cases which fell under my treatment, I made use of the infusion more sparingly, yet with undiminished effect.

It ought to be observed, that the infusion when first swallowed, excited a kind of convulsive reaction of the stomach and oesophagus, attended with a great heat in those parts, and a greater still in the mouth
and

and fauces, which gradually subsided, leaving an universal glow over the whole body, though it occasioned but a slight acceleration of the pulse. Although the heat descended through the whole alimentary canal, and occasioned a little uneasiness at the extremity of the rectum, the patient's going to stool, did not produce any other bad effect, even in a lady whose bowels were remarkably tender and subject to disorder.

When the green pepper was wanting I used the dry powder which I had by me.

On looking into Dr. Fothergill's Paper on the putrid fore-throat, I find the following note from Mercatus, which I beg leave to transcribe, as it shows that the fever did not always appear with violence in the first stage of the disorder.

*Nec
omnium fide oportet, si febris non
apparuit, aut succrescat, nam saepe citius
suffocat affectio, quam causa succendatur,
ac non raro malignitas humoris cor-
rumpit spiritus et mortem accelerat, tunc
eo quod febris succendatur. Mercat.
consul. p. 137.*

There

See Elliot's Collection of Dr. Fothergill's Works, 8vo. London, 1781, p. 181.

There is likewise a passage extracted from Heredia, and subjoined by way of note to page 22 of Elliot's edition of Dr. Fothergill's Works, that confirms my remark on the deceitful nature of this disorder; which being pretty long I shall forbear to transcribe it here, and shall only observe upon it, that the disorder sometimes proved fatal, even after all visible appearances of ulceration had vanished from the mouth, in consequence of the ulcers still existing and descending through the gullet and aspera arteria into the stomach and lungs. In these cases, there seems to be a peculiar propriety in using the infusion of capsicum as gargles, which are thought so essential cannot then extend their effect to the seat of the disorder.

I find also, that in the opinion of those Spanish physicians, the morbid affection of the fauces was the original disease, and that the fever was symptomatic only, in consequence of which they directed their principal efforts to those parts, and rested their hopes of success almost entirely on the action of topical detergents. Heredia recommends the strongest and most caustic, such as

181. q. 181. copperas,

copperas, verdigrise, the spirit of salt undiluted, and even the actual cautery; and though Mercatus disapproves the severity of that practice, he advises a scarification of the part affected. Fothergill not only approves of gently stimulating aromatic gargles, thinking that much depends on their use, but also authorizes the sloughs being touched with the *mel egyptiacum*, or the throat to be gargled with a mixture into which it enters as an ingredient. By the bye, it appears a little extraordinary that this eminent practitioner, though he admits the disease to be of a putrid nature, should have insisted so little on the use of the bark, until the publication of the *fifth* edition of his work, where it is mentioned in the preface in high terms of approbation.

I suspect, though I have not the means of resorting to the original authorities to verify my suspicions, that there was a much greater affinity between the phenomena of the disease in Spain, and that which occurred in the West Indies, than between the latter and the one described by British authors; and considering the analogy between

tween the climates, it would not be surprising were that really the case.

I have thus complied, my dear Sir, with your request, in stating my observations on the capficum when employed in the ulcerated fore-throat, leaving you to make such use of them as you may think proper.

Oct. 22, 1787.

LETTER II.

SINCE my former letter, a visit to the West-Indies has enabled me to collect some additional matter, respecting the use of the capficum in the putrid fore throat.

I find it has sometimes been employed without the success stated to have accompanied my experiments. My valuable friend, Dr. Clifton, of St. Christopher's, had in particular the misfortune to lose three children within a few days of each other, though he gave the capficum very freely; but it is to be observed, that these cases were different from any that occurred to me. They began
with

with uncommon violence, and terminated their career in two or three days. Indeed the disorder appears to have acquired at that period, an inveterate degree of malignity: for there was scarcely a family in the island, but what had to lament the privation of one or more of its number, either by that, or some other disorder of the putrid kind.

On the other hand, I find in Dr. Duncan's Medical Commentaries for the year 1787, a letter from Mr. James Stephens, a medical practitioner of the same island of St. Christopher, on this subject, which accords better with my observations, though the appearances of the disorder in which he gave it, varied somewhat from what I saw. He says he gave it to four hundred patients with the happiest success. Similar information I received from several other gentlemen who had tried it. But the less happy experience of my friend, still leaves a doubt on my mind, of its effect in the most acute cases.

I am, dear Sir,

Your faithful humble servant,

JOHN COLLINS.

Brompton,

January 10, 1790.

VOL. II.

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XXVI.

XXVIII. *Account of an Exfoliation of the internal Surface of the Tibia, removed by the Application of the Trephine.* By Mr. THOMAS WHATELY, Surgeon. Communicated by JOHN SIMS, M. D. Read February 2, 1790.

MR. COTTERELL, jeweller at Derby, aged twenty-eight years, and of a strong muscular habit, was attacked in June, 1779, with a swelling of his right leg. This swelling, which in two days almost entirely subsided, leaving only a slight inflammation upon the skin over the middle of the tibia, was not attended with pain.

Eight or nine days afterwards he was seized with acute pain opposite to the inflamed part, which afflicted him during four or five months, and much more severely in the night than in the day-time. At length there appeared a small ulcer in the discoloured part. It was at this time I first saw him, and upon introducing a probe, found it to pass to a considerable depth within the cavity of the bone.

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A venereal taint was suspected, especially as he was known to have had that disease some time before. I therefore put him under a mercurial course, in the expectation that the active powers of the body would be exerted to restore the limb, whenever the virus that occasioned the disease should be destroyed.

Under this course the pain soon ceased, and on examining the wound some time afterwards, I plainly felt a loose piece of bone lying in a bed of granulations within the cavity of the tibia. Concluding that it was an exfoliation of the internal surface, and that the separated piece was larger than the opening in the bone, I applied a caustic to the skin around the wound. On the separation of the slough the tibia was laid bare to the size of a half crown, the ulcerated hole in the bone being in the centre. Through this hole, with a pair of fine forceps, I took hold of the exfoliated piece, and could move it upwards and downwards, but could not extract it. In order to enlarge the opening, which nature had made in the bone, with the trephine, there being no hold for the center pin to enable me to

fix the saw, I bored a number of small holes in a circular form with a common gimblet, and then worked the trephine, as nearly as I could guess, to the depth of the cancelli, and attempted to separate the encircled piece. But though the space from the circular groove to the edge of the ulcerated hole, was not in some places the fourth part of an inch, yet I could not force it off with any instrument that I could put into the groove; I was therefore obliged to weaken its adhesion by boring many holes in it with the gimblet, and then with levators and nippers I separated it piecemeal. This was done without pain to the patient, though not without much difficulty from its great hardness. The exfoliated piece being now exposed more to view, I again attempted to extract it, but though it had a free motion, it was too long to be brought out at the opening made in the bone.

Through a wish to avoid repeating the operation with the trephine, I attempted to force it out with a strong levator, and afterwards by endeavouring to pass under it a bended wire tied to a piece of catgut; but

but each of these methods was impracticable.

In this situation (ten days having elapsed since its first application) I again had recourse to the caustic; and when the slough was separated, applied the trephine above the former opening in the tibia, but so as not to take in more than three fourths of its circle, on account of the difficulty I had before experienced in separating the encircled piece. In working the saw I found the bone so soft, that it was easily penetrated as deep as at the former operation; but I was much interrupted by the appearance of blood in the furrow, and by the pain the patient suffered; neither of which had happened at the first operation.

Having finished this operation, I found the encircled piece quite separated; it was little more than a thin rough shell, the parts underneath being a pulpy tender flesh. Through this enlarged opening I again attempted to extract the exfoliated bone, but was still disappointed, by reason of its length. I was therefore obliged to clear away the granulations, and a small portion of the integuments by caustic, from the

same part of the tibia as before; and, when the sloughs were separated, to apply the trephine a third time taking in a complete circle. I found the surface of the bone, on sawing, somewhat softer, and the pain much greater than at the second operation. The shell which came away with the saw was rather thicker than the last, but had the same pulpy vascular mass under it. Having again taken away all the prominent parts of the tibia, so as to make a complete and uninterrupted opening for the exfoliated piece, I took it out with a pair of forceps without much pain, though on all sides surrounded with granulations. It was two inches long, as thick as a common goose quill, and very hard.

In a short time the wound filled with granulations, which, as it healed, were gradually formed into bone; and in about two months, some small pieces of the disturbed sound bone having been exfoliated, the whole wound was perfectly healed.

This person's disease was manifestly an internal exfoliation of the tibia. Mr. Cheselden, speaking of it, p. 40. of his Anatomy, says, "In one case where the
 800 " matter

" matter had sufficient discharge by an ex-
 " ternal caries formed together with the
 " internal one, all the internal hard part of
 " the bone, which contains the medulla,
 " was separated from the rest, and being
 " drawn out through the place where the
 " external caries made a vent, the patient
 " received a perfect cure. In another case
 " of this kind, where the internal part
 " which contains the medulla was also se-
 " parated from the rest; and there being
 " holes through which the matter was dis-
 " charged, but none sufficient to take out
 " the exfoliated bone, the matter continued
 " to flow in great quantities till it destroyed
 " the patient; and, possibly, if this case
 " had been rightly known, the internal ex-
 " foliated piece might have been taken out,
 " and the patient cured."

From a review of the treatment of the
 present case, it appears, that at the first
 operation the tibia was of its usual hardness;
 but when fresh violence was offered, and a part
 of its substance was removed, nature seemed
 active to repair the injury, and in a few
 days its texture was considerably altered, in-
 flammation took place, and parts which were

before hard and insensible, and apparently impervious to blood-vessels, became extremely vascular and nervous: the bony earth was then gradually absorbed*; but when the irritating part was removed from the midst of these tender granulations, new depositions of bony matter were made, and the cure was easily effected.

Perhaps it would have been better to have made as many perforations with the trephine at the first operation, as might have been found necessary to remove the exfoliated piece; by which the pain of repeating the operation, when the parts became more sensible, would have been avoided. The only objection is the great hardness of the bone, and the difficulty of getting away the pieces; but if they could not have been removed, the event of this case shows, that the inflammation excited by the operation would have soon destroyed the hard texture of the bony part, and have gradually removed those parts which no moderate force could do suddenly. Upon the whole, the advantage of the operation is

* The deservedly eminent and ingenious Mr. J. Hunter, first suggested the idea of the lymphatics absorbing bone.

is evident, for without it the patient would probably have had a perpetual ulcer, and perhaps the continued draining might, as in the case recorded by Cheselden, have at last terminated fatally.

Since the preceding case occurred, two works relative to this disease have been published in France; one of them is entitled "*Observations sur la Maladie d'Os, connue sous le nom de Necrose,*" by M. David; and the other, "*Observations sur le Necrose,*" by M. Bouffelin.

Abstracts of these two works are given in the London Medical Journal *. In both we meet with much judicious practical information; but I am of opinion, that neither of these authors has distinguished the disease in question in a manner sufficiently accurate. If the attack is made on the external surface of a bone only, the exfoliated or deadened part will of course be external; if on the substance of the bone, the separated part will be to the extent of that affection; and if on the internal surface only, the separation will of course be internal, and within its own cavity.

* Vol. iii. p. 369. and Vol. vii. p. 263.

vity. It appears to me from a careful perusal of the cases from these French authors, that the 1st of Monsr. Bouffelin's is the only one which describes an exfoliation of the internal surface of a cylindrical bone; the others being either of the external surface or substance of the bone itself, to a greater or less extent; some with, and some without the adventitious supply of regenerated bone. The first is a disease well known, yet by no means common; the two latter * are very frequently to be met with; the first is of very difficult, the latter of much more easy cure. I think therefore that these gentlemen should not have classed these diseases together, without noticing the particular varieties of each.

The cases related by Mr. Cheselden, and to which I have already referred, were exfoliations of the internal surface of the tibia; but the operation at that time had not been attempted. As I do not intend in this place to enter into a minute account of these diseases,

* I have given an account of the cure of two remarkable cases of exfoliations of the substance of the tibia, attended with regenerated bone, in the first volume of the Memoirs of the Medical Society.

cases, or the method of treating them, I would only with due deference just hint, that it is of some importance in our views of cure, to ascertain as nearly as can be the situation and extent of the exfoliated piece*. If it is a portion of the external surface only, without any adventitious bone surrounding or binding it down, which is by far the most common; the forceps will in general be sufficient to extract the pieces through the external ulcerated holes, either with or without dilatation, or the caustic. If a portion of the substance of the bone is separated and bound down by adventitious bone, which nature in this case provides to supply the defect, it is best first to apply the caustic to the diseased integuments, and then to remove as much of the adventitious bone, by any common instrument, as prevented the extraction of the exfoliated piece

* Where nature has performed her work of exfoliation, and removed the diseased or deadened part of a bone from the sound, it may almost always be known by introducing a probe, and making a steady pressure upon the surface of the bone, in doing which the exfoliated piece will sensibly give way to the probe, as there are granulations, and a forming periosteum, between the sound bone and exfoliated piece.

piece by the forceps, which may in general be done very easily, as it has not much firmness. But if the external surface is not diseased, and an ulcerated hole is found to pass into the cancelli, where a loose exfoliated piece is felt, of larger extent than the external opening, we must work steadily with the trephine, after having prepared the part by the caustic, or the knife, through the sound and natural substance of the bone, by as many perforations as are sufficient to make an opening equal to the extraction of the exfoliated piece; and here the natural hardness of the sound bone, as is particularly noticed by Monf. Bouffelin, in his first case, corresponds very much, as well as in other circumstances, with that of the case I have related; but the perseverance necessary to complete this opening, and, in consequence, the removal of the irritating bone from within the cancelli, so different from that of the external exfoliation, can be known only to those who have performed the operation.

Old Jewry,

Nov. 11, 1789.

XXVIII.

XXIX. *Some account of the invention and use
of the Lever of Roonhuysen.* By ROBERT
BLAND, M. D. Read Feb. 16, 1796.

ALTHOUGH it is now near forty years
since an account of the vectis, or lever of
Roonhuysen was published, yet the know-
ledge of it seems still to be confined almost
to Holland; the professors of the rest of
Europe, pre-occupied by a rival instrument,
seem either to have neglected it, or to have
mentioned it only to degrade it, and to show
its inferiority to the forceps.

Having for ten or twelve years past, con-
stantly used the Lever with success, in dif-
ficult and laborious births, and being per-
suaded that it may be employed with greater
facility and advantage than the forceps, I
have, in order to contribute towards extend-
ing the knowledge of so useful an instru-
ment, collected whatever I could find, rela-
tive to the invention of it, and the alterations
that have been made at different periods, both
in the instrument itself, and the manner of
applying it, with the success that has at-
tended

tended the use of it. And to render these observations more interesting, I have given a short account of the state of midwifery in the earlier periods, with the several expedients that have been devised, to assist in difficult labours; and which led, as it were, step by step, to the invention of the forceps and lever.

This, I flatter myself, will prove particularly acceptable to practitioners in the country, and to all persons whose situation does not admit an extensive practice; and who cannot therefore be supposed expert, in using so difficult an instrument as the forceps. It may, I hope, save them from the distressing alternative, of either sometimes prematurely having recourse to the perforator and crotchet; or, if averse to the use of these instruments, and thence induced to trust too long to the efforts of nature, of finding their patients fall a sacrifice to fever and inflammation, or precipitated into diseases so disgusting and even dreadful, that they would willingly exchange them for death itself. Perhaps it may be thought, that the publication of Messrs. Vischer and Van der Poll, and the later one of professor Camper, upon the

the subject, are sufficient to enable practitioners to form a proper idea of the instrument; and it may even be argued, that if the lever is so valuable, as it is here represented, it must, long ere this, have obtained the reputation it deserved. Not to insist how slowly foreign publications are diffused here, which is frequently complained of, I shall observe, that the first publishers*, never having practised midwifery, they were constrained to give such an account of the lever, as they could collect from the loose papers of Mr. De Bruyn†; and professor Camper, when he wrote, had had so few opportunities of using the instrument, that he even mistook the part of the head‡ of the child upon which it acted; and had so slightly considered the subject, that in his conclusion, he gives an opinion of the lever, by no means so favourable, as he was warranted by the facts he had produced: of which more particular notice will be taken by and by.

The

* Mem. de l' Acad. de Chirurg. T. v. p. 732.

† Herbiniaux, Traité sur divers accouch. lab. p. 19.

‡ Ibid. p. 111, &c.

The most frequent cause of difficult and laborious labour, is some disproportion between the head of the child, and the capacity of the pelvis through which it is to pass. This may arise from a fault in the construction of the mother, or of the child; from the pelvis of the woman being too small or distorted, or from the head of the child being preternaturally large or unusually ossified. The wrong presentation of the head of the child, may also occasion a similar difficulty; as when the largest diameter of the head, is turned to the smallest diameter of the pelvis.

To these causes it has been usual to add, great imbecility or weakness in the mother, incapacitating her from exerting herself for the purpose of excluding the foetus; and the weakness and death of the child, whose exertions were thought not less necessary than those of the mother to expedite the birth*. But a juster knowledge of anatomy and

* *Quantopere autem fortus accelerando et facilitando partui conferat, in oviparorum præcipue ortu palam fit; constat enim foetum ipsum non autem matrem corticem effringere. Unde etiam verisimile est, in viviparorum quoque partu, præcipuam nascendi causam foetui deberi.*
Molimini,

physiology, with greater attention to the phenomena of labour have taught us that the efforts of the woman, in parturition, are no otherwise occasioned by the child than so far as it acts as a stimulus to put the uterus in motion; which a dead child, or any other inert mass, will equally effect, as we see happen in the expulsion of the placenta, or what is called a mola. When a child after death becomes putrid, and thence enormously swelled by the included and rarefied air, the birth will be impeded; but the difficulty will arise, not from the death of the child, but from its increased bulk.

That the weakness of the woman may in some degree tend to retard labour, cannot be denied; but that its influence is not very considerable is plain from hence; women in the last
stage

"*Molimini, inquam, ejus, non autem ponderi, ut Fabricius voluit.*" And a little further on, "*Ipsè foetus prono capite uteri claustra aggreditur, eademque propius viribus recludit, et in lucem eluctatur.*" *Op. Guliel. Harveii, p. 555.* But as the smooth, polished, and insensible egg, which cannot contribute to its own birth, is expelled by the action of the abdominal muscles, and uterine fibres of the hen or female bird alone, so it is reasonable to conclude, that the foetuses of viviparous animals, are excluded by the powers of the same parts.

stage of consumption, or on the point of dying from fever, frequently expel their children, with as great or even greater facility, than they had been used to do in perfect health; of which I have been witness several times. Nay, sometimes the child has been found to be expelled from the uterus, after the apparent death of the woman *.

Although the ancients appear to have had no distinct notion of an ill-formed or distorted pelvis

* For instances of this sort vide Harveii Oper. p. 556. and Nimmanus de vita foetus in Utero, p. 28, et seq. A similar fact occurred lately to Mr. Mainwaring, of the Strand, in the case of a woman who, at her full time, was seized with symptoms of inflammation of the stomach, of which she died in a few hours. As her pains were very severe, recurred at intervals, and resembled labour pains, Mr. Mainwaring, about six or seven hours before her death, examined per vaginam to find the state of the os uteri, which was then undilated. At the time of her death, and for some hours after, when the body was put into a coffin, no part of the child appeared without the vagina; but on the following day, when he was about to open the abdomen of the woman, the body of the child was found expelled, the head only remaining in the vagina.

Mr. Mainwaring imagined, that the expansion of the air, with which the bowels of the woman were distended to an uncommon degree, contributed in this case to the expulsion of the foetus.

pelvis, yet they could not help observing that the head of the child was frequently almost immoveably fixed there. This they attributed to the too great rigidity of the ligaments that connect the ossa innominata to the os sacrum, and to each other, which bones, they imagined, separated during labour, when in a natural state, to allow an easier passage to the child. Hence their frequent use of baths, fomentations, and ointments, with which they hoped to soften the ligaments; and when these were found insufficient, they endeavoured by the means of instruments, to force them asunder.*

Paré attributes a great part of the pain women suffer in childbirth, to the separation of the ilia from the sacrum; and asserts, that in several women he had opened, who had died soon after being delivered, he found the ilia separated from the sacrum the space of a fingers breadth.†

Dr. Harvey also imagined the bones of the pelvis were loosened prior to labour.‡. But

D d 2 Harvey

* Vide Hieron. Mercurialis Prælect. de Morbis Mulier. Lib. ii. cap. 3. in which he has collected almost every thing the earlier writers have said on this subject.

† Vid. Paré de la generation de l'homme. ch. 13.

‡ Vide Harveii opera, p. 455.

Harvey, however eminent in other respects, is not good authority in this case, for although he appears to have attended sometimes in cases of parturition, yet neither the manners of the times in which he lived, which did not yet, in this country, allow surgeons or physicians, except in rare cases, to assist women in childbirth, nor his peculiar avocations, permitted him to do this to such an extent as to add much to his knowledge. Accordingly we find the greater part of his observations on this state, were derived from his dissections of brutes; in many species of which, this separation of the bones of the pelvis, is said to be general. “A strong presumptive argument, Dr. Denman says, in favour of the separation of these bones, has been drawn from quadrupedes. In these the ligaments which pass from the obtuse processes of the ischia to the sacrum, on which the firmness of the junction of the bones very much depends; and which at all other times resist any impression attempted to be made upon them, are for several days previous to parturition, gradually deprived of their strength, and the animal walks in such a manner,

“manner, as would incline us to believe
 “could only be produced by a separation
 “of the bones of the pelvis.” *Indroduct.*
to Midw. p. 16. But this observation seems
 to prove the reverse of what it is intended to
 support. For if so considerable an effect is
 produced by the relaxation of these ligaments
 in quadrupeds, whose pelvices support only
 half of their weight, a much greater de-
 gree of weakness and lameness must be pro-
 duced, from a similar cause in women, the
 entire weight of whose bodies rests upon the
 bones that form that cavity.

It is worthy of notice, that Harvey at-
 tributes the enlargement of the pelvis to the
 separation of the pubes and coccyx, but
 Paré thinks this effect is produced by the
 divulsion of the ilia from the sacrum alone.

Mauriceau, whose experience gives weight
 and authority to his opinion, and who ap-
 pears to have taken great pains to investigate
 this matter, has, upon the clearest evidence,
 demonstrated, that such a separation of the
 bones of the pelvis, does not take place in a
 natural labour*.

D d 3

It

• “Car si cela arrivoit, les femmes ne pourroient pas
 “se tenir debout, ainsi que plusieurs font, incontinent après
 “être

It was usual in the Hotel Dieu at Paris, he says, to deliver the women in an apartment appropriated to that purpose; immediately after being delivered, they were conducted, walking, to another apartment, frequently at a considerable distance from that in which they were delivered; but this, he says, could not have been done, if the bones of the pelvis had been separated during labour. He

adds,
 “ être accouchées; d'autant qu' ils servent d' appuy a tous
 “ les autres parties du corps. J'ai remarqué cela autre-
 “ fois dans l' Hotel Dieu de Paris, en un grand nombre
 “ d'accouchemens que j' y ai faits.) Quand les femmes
 “ commencent d' etre en travail, elles vont en une cham-
 “ bre qu'elles appellent le chauffoy, auquel on les accouche
 “ toutes sur un petit lit, fort bas, ou on les met devant le
 “ feu; puis aussitot que leur besogne est faite, on les mene
 “ coucher dans leur lit, qui est quelque fois assez eloigné
 “ de cette chambre, auquell elles vont toutes fort bien à
 “ pied, &c.” *Traité des Malad. des femmes grosses.*
Tom. i. L. ii. ch. i. p. 210.

Further confirmation of Mauriceau's opinion may be derived from what is related of, “ the women of the Galla, (a nation on the confines of Abyssinia) who “ are said to “ be very fruitful: and who do not confine themselves even “ a day after labour, but wash and return to their work im- “ mediately; ” (See Bruce's Travels to discover the Source of the Nile., Vol. ii. p. 221.) and from what is frequently done here, by unfortunate young women, who after having concealed their pregnancy, have been known to resume their occupations soon after delivery.

adds, that although he had often examined the symphysis of the pubis while the head of the child was passing, he never could discern any separation; and although he had opened, or been present at the dissection of many women who had died soon after being delivered, he had always found the bones of the pelvis so firmly united, that the pubes could with difficulty be separated by a sharp and strong knife. Sometimes, he observes, the coccyx is forced to recede a little, which when it happens, subjects the woman to considerable pain.

Baudelocque maintains the same opinion, and shows, that in a well-formed pelvis, such a separation would be useless, in a deformed one insufficient, in both mischievous*.

To these authorities and arguments, may be added the following: If a process towards softening the ligaments that connect the bones of the pelvis, were going on during

D d 4

the

* "Ayant démontré son inutilité dans les femmes bien conformées, son insuffisance dans celles dont le bassin est vicié, et ses inconvéniens dans les unes et dans les autres." *L'Art des Accouch.* V. ii. par. 1911. For his arguments he refers to his Thesis, "*An in partu, propter angustiam pelvis impossibili, Symphysis ossium pubis scindenda,*" which I have not seen.

the latter part of the time of gestation, women would constantly move with more difficulty as they approach the end of their term, as quadrupeds are observed to do. But this, although it happens to some women, who live too sedentary a life, is so far from being generally the case, that it is even common for them to walk with more agility, and greater ease, the last ten or twelve days, than they had done for some weeks before. Also, in all very tedious and laborious births, occasioned by a disproportion between the head of the child and the capacity of the pelvis, particularly in young subjects, and with their first children, if the ligaments were previously softened, a considerable disunion of these bones must inevitably take place. But the facility with which such women frequently recover, proves that this does not happen.

I have been led to this digression by considering the mischievous influence that the doctrine of the spontaneous separation of the bones of the pelvis has had upon the practice of midwifery in all ages. To this must be attributed the invention of the speculum matricis, and other similar instruments, which continued to be used long after the time of

Harvey,

Harvey *, and to this also may be ascribed the operation of dividing the symphysis of the pubis, so much celebrated upon the continent; but which has been found so little to deserve the extravagant eulogiums that have been bestowed upon it, and in almost every case, has proved so mischievous, that I think it will hardly be repeated †.

When the impediments to the birth of the child were so obstinate that they could not be overcome by the means before recited, nor by the other rude methods ‡ the ancients were accustomed to put in practice, the surgeon, who was never called until the midwife had exhausted all her art, proceeded to extract the

* Groenevelt was called to the assistance of a woman in the year 1679, labouring under a suppression of urine, who had been delivered, he says, by Dr. Chamberlen, "*Instrumento matricis speculo dicto adhibito.*" See his work entitled *Tutus Cantharidum in medicina usus internus.* p. 129.

† Dr. Osborne, in an ingenious Essay on laborious parturition published in 1783, has given an historical narrative of the operation, with an analysis of the cases in which it has been performed. To that Essay, and to the labours of Baudelocque in France, it may be attributed, that the reputation of the operation seems for some time past to have been on the decline.

‡ Vide Spachii *Harm. Gynec.* p. 11

the child with strong pincers or crotchets *. But when the pressure which the child had suffered in the passage, had not been considerable

* I know that Avicenna commends the use of a fillet and a kind of forceps, for extracting children when detained by the straitness of the pelvis. " Si foetus ita magnus sit, (says Mercurialis,) ut sola magnitudo difficultatem faciat, Avicenna dat quasdam regulas servandas; prima est, ut obstetrix tentet manibus educere, si vero manibus non potest, fasciâ circumligetur foetus corpus, atque ita paulatim educatur. Si vero hoc non succedat, habent obstetrices quaedam tenacula quibus circumligant pannos, ne laedant vel offendant foetum usque educant." Praelect. p. 67. These tenacula, of which we have no description, were probably then well known, but we may conclude they were of no great utility, as we find no farther account of them, or of instruments of that kind, from the time of Avicenna, whom Freind places about 980. until Rueff, surgeon at Zurich published his book *De conceptione et generatione hominis*, in the year 1554; in which, treating of delivery by instruments, p. 30. he says, " Eo autem modo, scil. usu apertorii vel speculi matricis, ducto matricis orificio, obstetrix manibus infantem leniter apprehendat, et si possibile est, cum secundis educat. Si fiat autem ut mortuus infans propter magnitudinem suam praedicto modo educi nequeat, vel secundae manibus prehendi et educi non possint, curandum tunc ut sequentibus instrumentis quicquid id fuerit, sine matris nocummento, comprehendatur et prudenti cura educatur." He then describes two pair of forceps, one armed with teeth, which he calls *Rostrum anatis*, the other without teeth, his *forceps longa et tersa*, with either of which you are to proceed

siderable, it frequently happened, that it was born alive, although torn and mutilated by the instruments. This led at length to the trial of other means, by which it was hoped, in many of these cases, the obstacles to the delivery might be overcome, without injuring the child. One of the methods recommended for this purpose was, for the operator to pass his hand into the uterus, to turn the child, and to deliver it by the feet. This doctrine which was first publicly taught by Ambrosé Paré, was soon disseminated, and in time adopted by all the enlightened practitioners in Europe. To this the writings of Guillemeau materially contributed, who not only adopted this practice of Paré's in the circumstances here mentioned, but extended it to cases of flooding and convulsions.

But this although a valuable improvement, was sometimes impracticable, the head, proceed to extract, "Si possibile fit, id quod protrahendum est." But as these forceps are both joined at their center or fulcrum, it must have been exceedingly difficult, if not impossible, to take hold of the head of the child with them in the vagina, until it was first opened. And there is reason to believe that Avicenna's tenacula were not more artificially constructed.

head of the child being forced too low down before the surgeon was sent for; or too firmly wedged in the pelvis, to admit of its being put back, or of the introduction of a hand to pass it. In these cases they attempted to deliver with the assistance of a fillet; and this continued to be used, long after the introduction of the forceps.

The fillet was made by cutting, in a strong slip of cloth, a slit, sufficiently large to pass over the head of the child. This was then to be carried up into the vagina, upon the hand of the accoucheur, and lodged, wherever he could fix it over the head of the child; which done, the hand was to be withdrawn, and the child extracted by pulling at the other end of the cloth. Of this simple contrivance many improvements were devised, all with a view to facilitate the passing it over the head of the child, or to fix it there when passed; but with so little success, that it has been long given up as useless, or the application of it confined to those cases in which the head is entirely lodged in the vagina. In which cases, the exertions to fix the noose, by exciting fresh pains,

pains, contribute more than the fillet to the delivery.

Whilst some practitioners were endeavouring to improve these modes of delivering, the Chamberlens, between the years 1665, and 1670*, invented a pair of forceps with

two

* " My father, brothers and myself, (though none else
" in Europe that I know) have by God's blessing, and our
" industry, attained to, and long practised a way to deliver
" women, when the head, on account of some difficulty
" or disproportion, cannot pass, without any prejudice to
" them or their infants; though all others (being obliged
" for want of such an expedient, to use the common way),
" do and must endanger, if not destroy, one or both with
" hooks. By this manual operation, a labour may be dis-
" patched, on the least difficulty, with fewer pains and
" sooner, to the great advantage, and without danger, both
" of woman and child." Preface to a Treatise of Mid-
wifery, by M. Mauriceau, translated by H. Chamberlen,
M.D. and published 1672. p. 13.

As this account is so cautiously worded, that it is impos-
sible from it to discover what the invention or method al-
luded to was, which was evidently the intention of the
writer, and for which he apologizes, a little farther on, by
saying, " as the secret was the joint property of his father
" and brothers with him, he was not at liberty to publish
" it," various opinions have been entertained concern-
ing it. Some, and among them Dr. Exton, imagined,
that it consisted only in a more easy method of turning,
than was then known. But, as Chamberlen says, p. 14 of
the

two blades, contrived to separate and to join again, after being introduced into the vagina. This was so great an improvement upon every device that had been before imagined, that it gave them, who for a long time were the sole possessors of the secret, a pre-eminence over all other practitioners. With the assistance of these, they boasted they

the Preface, "by the same means he could bring away the head when separated from the body," it is plain that could not be his meaning. The same observation is an answer to an opinion, first entertained, I believe, by Baron Van Swieten, and since adopted by Dr. Denman, that the instrument used by the Chamberlens was the lever, which is by no means adapted to this case, and fixes it to be the forceps, the only instrument, except cutting ones, which they disclaimed, that is adequate to that purpose. That they invented them within the times I have fixed, seems probable from hence: in the year 1665, seven years before the son translated Mauriceau's Work, Dr. Paul Chamberlen, the father, published his *Midwife's Guide*; in which he not only makes no pretence to any secret mode of delivery, but he appears to have been ignorant of the method of turning, so long before recommended by Paré and Guillemeau, which probably induced Mauriceau to insinuate, (*Obser. sur la Grossesse, &c.* Tom. ii. Ob. 26.) on hearing of the great fortune the Chamberlens afterwards acquired by their practice, that they were more indebted for their success, to the principles they had learned from his book, than to their instrument.

they could deliver in all cases where the head of the child presented, without using sharp or dangerous instruments. In this confidence one of the sons went to Paris*, in the year 1670, with a view to sell his secret, or to practice there; and being there called to a woman with a narrow pelvis, whom Mauriceau had left, as incapable of being delivered by any other means than the cæsarean section, he too precipitately undertook to deliver her with his instrument; but after a long trial, being foiled in his attempt, he was obliged to leave the business unfinished; having, as Mauriceau insinuates, hastened the death of the woman by his ineffectual efforts†. Disappointed in this essay, and finding he should not be able to succeed against so powerful an opponent as Mauriceau, he quitted Paris, and

* *Obs. sur la Grosseffe, &c. par F. Mauriceau, ob. 26.*

† This failure was a subject of no small triumph to Mauriceau, who tells Chamberlen, (*ibid.*) he must not think the women at Paris were to be delivered with the same ease as the English women. "Lui faisant entendre qu'il s'etoit bien trompé, en croyant trouver autant de facilité à accoucher les femmes à Paris, comme il avoit pu trouver à Londres."

and went to Holland †, and disposed of his secret to Roger Roonhuysen, who then practised midwifery at Amsterdam. Roonhuysen ‡, it should seem, observing he could use one of the blades of the forceps, more easily and advantageously than both of them, and that he could better conceal it from the women and their assistants, confined himself to it, and making some alterations, formed a distinct

† *Pratique des accouch.* par M. A. Le Roy, p. 66.

‡ This difficulty of managing the forceps was early noticed, and put other practitioners, besides Roonhuysen, upon the expedient of using only a single blade, or of even contriving a lever similar to Roonhuysen's. Mr. Butter of Edinburgh observes, that when the head of the child is a little too forward on the pubes, one blade of the forceps may be employed to bring it to a right-situation, and assist the birth. *Edinb. Med. Essays*, vol. iii. art. 20. 1733.

Giffard found that when he used both the blades of his forceps they frequently slipped, he therefore more commonly delivered with one; and Chapman makes the same remark. M. Rigaudeau, surgeon at Douai, in the year 1738, contrived a spatula or lever, which he used successfully in more than forty difficult labours; and M. Warroquier, professor of midwifery at Lisle, finding he could use a single blade of the forceps with more advantage than the whole instrument, in the year 1753, contrived a lever which he made use of with success in near 1200 cases. —Herbiniaux, *Traite sur divers accouch. lab.* p. 118.

a distinct instrument; and thence has been considered as the inventor of the lever.

That the lever had this origin, and was at first only a single blade of the forceps, seems proved by the following circumstances. It was the general opinion in the time of Roonhuysen, that his secret was the forceps, which Mr. Vander Suam*, who lived more than forty years with Roonhuysen, confirms. Rathlaw†, who published, in 1747, an account of what he conceived to be the secret of Roonhuysen, describes it as a kind of forceps; and M. Levret understood the same when he published the first edition of his *Suite des Observations* in the year 1750. Abraham Tittingh, surgeon at Amsterdam, and cotemporary with Roonhuysen, says, if I may be allowed to use Haller's account of his works, “Rogerium Van Roonhuysen, duobus corneis cochlearibus usum esse, quorum singulum singulo capitis lateri applicabat ‡.”

That the forceps were divulged and became generally known so much sooner than the

* Levret suite des Obs. v. 2. p. 215.

† Ibid. p. 202.

‡ Bibl. Chirurg. Tom. ii. p. 134.

the lever *, seems to have been owing to the difficulty, amounting almost to an impossibility, of using them, without giving such a view of them as would enable a curious bystander to form some general idea of them. But the single blade or lever might be used, not only without the knowledge of the assistants, but even without the woman herself being conscious that any instrument had been employed; of which I have met with many instances in my own practice.

Whatever was the origin of the lever, Roonhuyfen soon acquired such reputation from the use of it, that Ruysch, already famous for his injections, became his partner in the secret†, and together they engrossed almost the whole of the business at Amsterdam; the magistrates of which city some time after, forbade their surgeons to practice midwifery, until they had been examined by the

* Although no description of Chamberlen's forceps was published in this country until 1732, yet Chapman, Giffard, Butler, and others, used them many years before that period.

† *Pratique des Accouch.* par M. Le Roy, p. 79.

the possessors of this instrument*, and instructed in the manner of using it. But a participation in the secret was not to be obtained under a considerable sum of money†, nor until after being bound to secrecy‡. And it was even then communicated, we are told, so imperfectly, that when some time after, some of the pupils, perhaps suspecting imposition, came to compare their notes; they found they had been using different || instruments. By this management, the knowledge of the lever was kept a secret, or confined to a small number of persons,

E e 2

* Ibid. p. 80, 81. Also, Suite des Obs. &c. par M. Levet, 1st Edit. p. 205.

† "On n'en avoit communication du secret de Roonhuyfen, qu'a un prix enorme." Mem. de l' Acad. de Chirur. Tom. v. p. 732.

‡ "Per sexaginta et ultra annos, latuit hoc Arcanum, et Amstelaedami inclaruit ejus usu Rogier Van Roonhuyfen; unde postea arcana hæc methodus, vel hæreditate, vel pretio numerato, una cum promissa silentii fide, ad paucos petvenit, qui hac arte inclaruerunt." Comment. in Aph. Boerh. Tom iv. p. 546, 547.

|| Pratique des Accouch. par M. Le Roy, p. 80. Perhaps the circumstance here mentioned, might arise from the yet unsettled opinion of Roonhuyfen, who sometimes might use the forceps, sometimes the lever.

sons, during the lives of these gentlemen, and for a considerable time after, as Roonhuysen left no publications: and although Ruysch in his numerous works, has many judicious observations on the practice of midwifery, yet he has given us no information upon the subject of the lever; for which he has drawn upon himself a deserved censure from Baron Van Swieten*.

In the year 1753, Jaques de Vischer †, and Hugo Vandepoll ‡, two physicians at Amsterdam §, purchased the secret of the heirs of John De Bruyn, a descendant of Roonhuysen, and communicated it to the public

in

* *Quantam ergo cladem intulerunt humano generi, qui Arcanum hoc texerunt! Utinam non inter illos numeraretur Fredericus Ruyschius; cui ars nostra tantum debet.*
—Comment. in Aph. Boerh. 4to. T. 4. Art. 1316. p. 448.

† Ibid. p. 547.

‡ Hugo Vandepoll, left his native country and retired to Canterbury; where he lived more than twenty years under the assumed name of Dawkins. He died on the 7th of March 1784, aged 75 years; very much regretted by the poor of that place, to whom he was a liberal benefactor.

§ They paid about 5,000 French livres for it.—Herbinaux Traité sur divers accouch. p. 19.

in a paper written in their own language. This was soon after translated into French by M. Preville, and added to his edition of Smellie's works, from which, the following extract, containing a description of the instrument, and the manner in which it was directed to be used, is taken.

“ The lever * is an oblong piece of iron,
 “ eleven inches long, one broad, and about
 “ an eighth of an inch in thickness; it is
 “ strait in its middle for four inches, and
 “ becomes gradually curved at each extre-
 “ mity; the curves are of different lengths
 “ and depths, the edges are rounded, and
 “ the extremities for the space of an inch,
 “ and also the middle of the instrument, are
 “ directed to be covered with plaister, and
 “ then the whole of it to be sheathed with
 “ thin dogskin; taking care to avoid ine-
 “ qualities or folds which might injure the
 “ woman or child. In using it, the au-
 “ coucheur must introduce the fore finger
 “ of his left hand into the vagina near the
 “ anus, to serve as a guide for the instru-
 “ ment, which must now be gently insinu-
 “ ated

E e 3

* Plate IV, Fig. I.

" ated between his finger and the head of
 " the child, taking care that no part of the
 " uterus be included between the lever and
 " the head. The instrument must then be
 " moved to the right and to the left, to find
 " where there is the greatest space, and in
 " some degree to loosen and disengage the
 " head; and then gradually carried round,
 " until it comes under the pubes, lifting
 " the end of it from time to time, to obtain
 " a freer passage. The handle of it must
 " now be raised, and the instrument gently
 " shifted about, until the occiput is exactly
 " lodged in its curve. The more complete-
 " ly and exactly the curve touches and em-
 " braces the head, the more speedily and
 " easily the delivery will be effected. The
 " instrument being thus firmly and equally
 " applied to the head, the accoucheur must
 " slowly and uniformly raise the handle with
 " his right hand, while with his left, he
 " presses the middle of it downward; by
 " this means the coccyx is forced back-
 " ward, and the lower part of the pelvis is
 " enlarged. By continuing to raise the han-
 " dle of the lever and to press down its
 " middle

“ middle or centre, the head of the child
 “ is made to descend into the dilated ca-
 “ vity of the vagina; and this is commonly
 “ effected in a few minutes, when the left
 “ hand must be applied firmly against the
 “ anus and perinæum, forcing those parts
 “ upwards and forwards towards the orifice
 “ of the vagina, to prevent laceration, for
 “ which purpose also, the whole operation
 “ must be performed slowly and cautiously;
 “ imitating as much as possible, a natural
 “ labour.

We found,—add the authors of the paper,
 “ —a cord fixed round one of the ends
 “ of the instrument, about the middle of
 “ the curve. This cord, we imagine, served
 “ no other purpose, than to point out the
 “ end of the instrument commonly made
 “ use of, or to measure the length of the
 “ part introduced.”

Smellie, who did not see this account
 until the first volume of his cases and obser-
 vations was printed, takes notice of it in
 the preface to the volume, in the following
 terms. “ M. Preville has obliged the world
 “ with a print of the instrument used by

“ Roonhuysen, as we use a single blade of
 “ the forceps, to move along the head in
 “ laborious cases. This secret is said to
 “ have been communicated towards the end
 “ of the last century, by the Chamberlens
 “ to Ruysch, Roonhuysen, and Boekelman
 “ at Amsterdam.” As Smellie was then
 advanced in years, and about to quit the
 practice of midwifery, he contented himself
 with thus slightly noticing it; had he be-
 come earlier acquainted with it, so as to have
 been enabled to experience the utility of it,
 there can be no doubt, from his known
 candour, that he would have recommended
 it, and under his auspices the practitioners of
 this country would have as far excelled all
 others in their knowledge of the manage-
 ment and use of the lever, as for a long time
 they did in that of the forceps.

Monf. Levret, who had not heard * of
 the lever when he published his first volume
 of Observations on laborious Births, bestows
 a criticism upon it in his second volume.
 But it is easy to see he writes from theory
 alone.

The

* Preface to *Suite des Obser. sur les Causes*, &c. p. 11.

The pains he had taken to improve his forceps, and his confidence in them and his *tire tete*, left him little leisure or inclination to examine impartially an invention, contrived to answer the purposes of the forceps; and boasted to be much superior to them. He however first suggested, that the proper use of the cord †, found in one of the curves of the lever, and which the publishers of the *secrét* were unable to assign the meaning of, was to moderate the pressure of the instrument against the pubes, and to facilitate the descent of the head of the child.

But although the lever was neglected or proscribed by the English and French professors, it continued to be used with great success by the Dutch, who laboured to improve both the instrument and the manual or manner of using it.

These alterations Professor Camper has given an account of in a paper published in the fifth volume of the *Memoirs of the Academy of Surgery at Paris*. The changes made in the instrument, were not material, consisting principally of some slight alterations in their
curves.

† Ibid, p. 43.

curves. Mr. Tittingh's lever had only one curve, the other extremity terminating in a ring, for the greater facility of holding it. But a more material improvement had been made in the manner of introducing it, Mr. Tittingh * passed it immediately under the

* The following Letter from Mr. Tittingh to M. Herbiniaux, inserted by the latter in his *Traité sur divers Accouch. Labor*. I thought might be acceptable to the reader, as containing his improved method of using the lever, and I have therefore transcribed it :

“ Supposons une femme dans cette espece d'accouchement ou la tête est enclavée. Je la fais coucher en travers son lit, de maniere que ses deux jambes sont hors de lit. Je m'affieds devant elle ; ses genoux sont élevés, et deux femmes assises à mes cotés lui tiennent les pieds. Je place son corps assez avant, sur le bord du lit, pour que ses fesses l'outrepassent un peu. Alors je tire mon levier, et je l'enduis de pomade ou d'huile. Je portes ensuite les deux premiers doigts de la main gauche avec leur dos contre la tête de l'enfant le plus loin qu'il est possible sous l'os pubis, entre les levres de la matrice, tenant la spatule de la main droite. Apres en avoir posé l'extrémité sous les deux doigts de la main gauche, je la glisse au dessus de la tête de l'enfant, en donnant quelques secousses d'un côté et d'autre. Mais il peut arriver que la tête soit si pressée contre l'os pubis, que le levier n'avance pas aisément. Alors je la degage un peu avec les deux doigts ; et pour cela, je suis aussi obligé de lui faire éprouver une foible pression, avec la

“ partie

the pubes, by which means the tedious and troublesome manœuvre, of moving the instrument half round the circumference of the pelvis, was avoided. Others* introduced it on one side of the pelvis over the ischium.

Professor Camper's paper also contains tables of laborious and præternatural labours at Amsterdam, from the year 1741 to 1765, kept by Mess. Tittingh and Berkman, who were engaged by the public to attend all the poor women in that city, in difficult labours. From the first table it appears, that of 539 laborious or præternatural births, (about 22 each year) 165 were head cases; that in 98 the arms, in 66, the breech, in 64, the feet, in 2, the back, and in 44, the funis presented. But as the head probably came down with the funis in a considerable number of the last class, the cases in which the impediment to the birth proceeded from the head

“ partie antérieure de mon levier, a fin de m'y procurer un
 “ peu d' espace pour le placer convenablement. Tout
 “ ceci étant fait, mon levier est d'ordinaire obliquement
 “ placé sur la tête, ayant son extrémité à côté de l' os occi-
 “ pital, aux environs de l'apophyse mastoïde, et cette
 “ place ne diffère de quelques choses qu' à mesure que la
 “ face est plus ou moins tournée de côté.”

* Mem. de l'Acad. de Chir. p. 741.

head being detained in the passage will amount to about one third of the whole number; all which were delivered with the lever*. From the second table kept by Mr. Berkman, during a part of the above period, when he performed the whole of the business, 89 children appear to have been delivered with the lever, 72 of which were born alive; of the remainder, seven were putrid, consequently dead before the commencement of labour.

As the proportion of head cases, in which it was thought necessary to use the lever, mentioned in the first table, appears considerable, it has therefore been doubted whether there was in all of them a necessity† for using

* Mem. de l'Acad. de Chir. p. 735. Tous les enfans qui presentotent la tête, ont été tirés par la spatule ou levier.

† Of this necessity practitioners entertain different opinions; we are very ready to condemn a too great fondness for instruments: is there not danger of running into the opposite extreme, and of becoming too averse to and fearful of them? Perhaps part of the mischief supposed to have been occasioned by the use of the forceps or lever has been owing to the head of the child being suffered to remain too long incarcerated in the pelvis, and consequently might have been

using instruments, yet all of them having been terminated with the lever, proves incontestibly the general utility of the instrument: and that it is not so limited in its operation as its antagonists contend, but that it may be used successfully in almost all cases in which there is space sufficient for the head of the child to pass thro' the pelvis entire. This result however escaped the notice of professor Camper, who concludes his account with limiting the use of the lever, to those cases in which the occiput is turned to the pubes. But it must be evident to those versed in the practice of midwifery, that when the head has made that turn, it very rarely requires the assistance of instruments; and that it is in assisting to give that favourable position to the head, that the primary merit

and been prevented by a timely use of one or other of these instruments. "Combien des enfans, says M. Puzos, sont venus morts pour avoir trop séjourné dans des endroits qu'on n'imaginoit pas leur devoir être funestes: que des meres sont restées estropiées ou incommodées tout le reste de leurs jours, pour avoir languï dans un travail qu'on pouvoit abrégér avantageusement pour la mere et pour l'enfant, &c." *Traité des Accouchemens*. C. ix. Art. ii. p. 120.

and utility of the lever consists. But although professor Camper does not appear to have understood the full value and power of the lever, yet the celebrity of his name and of the work in which his paper is published, contributed very much to spread the knowledge of it over Europe.

In the year 1771, Dr. Leake published an account of a new invented forceps with three blades. This consisted of a pair of forceps little altered from Levret's, to which the Doctor added, for a third blade, the lever of Roonhuyzen. The idea of this instrument seems to have been borrowed from the tire tete of Mons. Levret; and like that it is intended principally to remedy the too great aptitude of the forceps to slip over the face of the child. The doctor thinks also, that it will prevent the head of the child, (grasped laterally by the two blades of the forceps) from being enlarged in its opposite diameter; and consequently the occiput from being forced still further over the pubes. But it must be easy to discern, that if the head of the child were so large that it could not by the force of the labour pains, be pressed through the pelvis,

pelvis, the difficulty must be greatly increased by the addition of the three blades of this complex instrument; which could not possibly act without imminent danger to the mother.

Dr. Smellie, who had as much experience of the forceps as any man, saw the danger * of using long curved forceps, except by persons of great experience and judgment; and therefore left the short straight forceps, as a legacy to the public, and as alone fit for general practice. Dr. Harvie, his successor, in my hearing, has often said, " he was afraid, the forceps, as now made, had done more mischief than good;" and the late Dr. Hunter was of the same opinion.

Dr. Denman, foreseeing the danger of putting this triple bladed instrument into the hands of young and unexperienced practitioners, thought it his duty, as a public teacher of midwifery, to point out its defects, and mischievous tendency. He rightly observes†, that the action of the forceps is from blade to blade, and that the action of the lever

* Treatise of Midwifery, lib. iii. ch. 3.

† In a single sheet which the Doctor circulated amongst practitioners of midwifery, his pupils, and others.

lever, which is to depress the head of the child, cannot take place whilst the forceps are moved, without doing great mischief. The Doctor here adds his testimony to the opinion which Smellie and Harvie had given, of the danger of introducing long curved forceps into general practice; and of attempting with them to deliver, before the bulk of the head has passed the brim of the pelvis; and says, that in those cases he gives the preference to Roonhuysen's lever.

This paper of Dr. Denman's was answered by a pupil of Dr. Leake, in a pamphlet in which the use of the forceps with three blades is defended. Some Letters also, written by foreign and other correspondents, commending the ingenuity of the invention, have been added to the late editions of Dr. Leake's introductory Lecture. But the almost total oblivion into which the instrument seems nevertheless to have fallen, is the best proof of the propriety of the censure that was passed upon it.

In the year 1781, M. Baudelocque published his *Art des Accouchemens*, in which he bestows some pages upon the lever. He says*, it can only be used to depress the occiput

* Tom. ii. p. 58.

ciput, and bring the chin of the child in contact with its breast, when it has removed from it too early in the labour; which being done the lever is to be withdrawn, and the labour is to be completed with the forceps. From this direction it is evident that M. Baudelocque has had very little experience with the lever; if he had he would have found, that as soon as he had so far succeeded as to alter the position of the head with the lever, the business was nearly finished; and that it then became necessary to withhold a part of the force, applied to the instrument, to prevent the too precipitate birth of the child, and the consequent destruction of the perinæum. He recommends the curve at the extremity of the lever,* to be considerably enlarged, and advises it to be used as a blunt hook, or crochets; and says, it may be advantageously employed when the face of the child is turned to the pubes, in which case, it is to be introduced along the coccyx and sacrum of the mother.

Professor Plenck, in his *Elementa Artis Obstetriciæ*, published in the same year with Baudelocque's Work, gives a description† and engraving of the lever. He says, the use of it

* Plate IV, Fig. 3. † Page 187.

it is to excite pains, when they are too languid, and by depressing the occiput, to assist delivery when the capacity of the pelvis is too small to allow an easy passage to the head of the child; but he adds, that no great assistance is to be expected from it.

In the year 1783, M. Herbiniaux, surgeon at Brussels, published his *Traité sur divers accouchemens laborieux*, in which he treats at large of the utility of the lever, and describes some alterations and additions he has devised, by which he imagines he has considerably improved it, and rendered it superior to the forceps. He first * observed, that the curves at the extremities of Roonhuyzen's lever were of different depths and extents; which he considers as essential to the perfection of the instrument. The small curve being only applicable when the bulk of the head has passed the brim of the pelvis; the larger one to assist also in bringing down the head through that strait.

He thinks, with M. Levret, that the cord may be of considerable use; but imagines that in the manner it was fixed by the inventors, the soft parts of the woman were liable to be abraded

* Vol. i. p. 99.

abraded by it, and he therefore orders a hole to be made through his lever *, transversely from side to side, to afford a passage to the cord, by which means that accident is prevented. He contends that the more the curves at the extremities of the lever are enlarged †, the greater will be the difficulty of introducing it between the head of the child, and the bones of the pelvis; and that when introduced it will be more apt to slip, and will act with much less power than when the curves are small. He prefers making the instrument of silver, as being less alarming to the woman than iron, and when well beaten and of a proper thickness, he has found it sufficiently strong. But as silver is smooth and slippery, he directs a plate of iron to be soldered on the internal surface of the spoons or blades; of which he has two, one with a small and one with a larger curve, made to screw on and take off from a common handle.

The handle is made hollow, and when fitted with its apparatus, will also serve the purpose of a syringe to inject oil or any other fluid into the uterus.

F f 2 When

* See plate, IV, Fig. 4.

† Parag. 121, 197.

When great exertion is necessary, he fixes a blade at each end of the handle, and thus lengthening his instrument, he increases considerably its power of action. He is very diffuse in describing a variety of positions of the head of the child, in which it may be fixed or detained in the pelvis; and the manœuvre for each of them. And in many of these positions he demonstrates, that the lever is better adapted to overcome the obstacle than the forceps.

In the same year Mr. William Dease, surgeon at Dublin, published *Observations in Midwifery, particularly on the Method of Delivery in difficult Labours*. He describes the lever of Roonhuysen, and thinks it can only be used when the head of the child is very low; and even then, from its action upon the pubes, he imagines, it must ever prove injurious; “retentions * of urine, he observes, being
“ the immediate, and an involuntary discharge
“ of urine, the lasting consequence of using it.” On these considerations, the lever seems to have been early laid aside by him in favour of the forceps. But as the forceps, he says,
“ could † not be used without alarming the
“ woman

* Introduction, p. 6.

† Section iii. p. 45. ‡ Ibid. p. 46.

“ woman in labour and her assistants, were
 “ very difficult in their application, fre-
 “ quently slipped, and when most successful-
 “ ly used, were injurious to the mother or
 “ child, or both, at least seven times out
 “ of ten, he again had recourse to the le-
 “ ver †.” To increase its power of action,
 and at the same time to render it less mis-
 chievous, he adds considerably to the ge-
 neral bulk of the instrument, and very
 much enlarges the curve at the extremity.
 The instrument thus altered he denominates
 an *Extractor*, and says, he has found it to an-
 swer the purposes of the forceps, without
 being liable to their disadvantages.

His directions for using the extractor are,
 after injecting a glyster and emptying the
 bladder, to place the woman upon her
 knees * in the bed, an assistant sitting be-
 fore and the operator behind her. The
 latter is then to introduce the extractor on
 one side of the pelvis, where the sacro-is-
 chiatic ligaments cross, or over the tube-
 rosity of the ischium, in a direction back-
 ward. When the accoucheur has found a

F f 3

proper

proper fulcrum, he is to endeavour to extract the head, by raising the forehead out of the cavity of the sacrum, and the occiput from under the pubes. If the extractor has not taken hold, it must be shifted to the other side, and if it should again fail, he advises the operator to desist, until the woman is refreshed; when he is to renew his attempt to deliver.

From this description of the extractor, and the mode of using it, it is plain that it hath little of the properties of the lever of Roonhuysen, but, like M. Baudelocque's, resembles in every thing, except in its bulk, it being much larger, the blunt hook* or *Crochet mouffe* of Mauriceau, or still nearer perhaps, a blade of Palfyn's forceps†, as delineated by Heister in the second

* *Traité des Accouch.* T. 1. p. 363,

† Palfyn was a surgeon at Ghent, and by many considered as the original inventor of the forceps.—M. Le Roy says, that in one of his excursions to London, of which he made many, with the view of learning what was new in surgery in this country, he obtained a sight of Chamberlen's forceps, and on his return home published them as an invention of his own. It is certain his account, which was printed in the year 1710, is the first we have

cond volume of his *Institutiones Chirurgicæ*. The use of it must be very limited, as it can only act by drawing down, and must, I should apprehend, be assisted by a hand applied to the opposite side of the head, consequently, cannot be efficaciously employed, except where there is plenty of room in the pelvis, and the head has descended very low, and is only retarded by the want of pains or strength in the woman.

There are besides the above, several other writers mentioned by Haller, in his *Bibliotheca Chirurgica*, who have treated of the lever, but as I have neither been able to see their works, nor to learn their doctrine concerning it precisely, I have not noticed them here*.

F f 4

Dr.

have published of that instrument. But the Chamberlens, as we have shewn, used them more than forty years before that time.

* Crantz, who had seen the lever, but had not had an opportunity of using it, when he wrote his paper, *De re instrumentaria in Arte Obstetricia*, published in 1757, expressed much pleasure at the simplicity of the invention, and formed great expectations of the utility of it.—See the last page of his paper, in the first vol. of the *Nova Acta Acad. Nat. Curios.*

Dr. Aitkin, of Edinburgh, has lately contrived a lever, which, by means of numerous short joints, each of them admitting, like the vertebræ of the back, a small motion only, may be straightened or curved at discretion, even after being introduced into the vagina. But as I see no utility in such a construction, and as the blade must unavoidably, in order to obtain this motion, be considerably weakened, or made much thicker than it would otherwise be required, I cannot recommend it.

Dr. Lowther, I understand, recommends the use of the lever to his pupils. But the instrument I see in the shops, under his name, appears too short, and the curve too large, to be used with all the effect it is capable of producing, when the curve is smaller. But even in that state it is a valuable instrument, and safer than the forceps; and therefore, very proper to be put into the hands of young practitioners, who may easily increase its power, as they become more experienced in the use of it.

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I know that this opinion of the superior safety and utility of the lever, will not readily be admitted by those gentlemen, who having constantly used the forceps, have acquired such an expertness in handling them, that they are neither conscious of any material difficulty in the application of them, nor of the necessity of injuring with them, to any considerable degree

• “ Les forceps sont dangereux, en ce que, abstraction faite de leurs avantages ou desavantages, ils ne peuvent être maniés sans risque, que par celui auquel un exercice suffisant aura donné complètement l'habitude de s'en servir. On connoit nombre d'exemples de leurs mauvais effets, tant sur les mères que sur les enfans, provenant de la mal adresse de ceux qui les ont employés.” *Chayrou's Introduction to his Translation of Theodens's Neue Bemerkungen.* And a little farther on he says, “ De tous les instrumens propres à l'art d'accoucher il en est un seul que j'excepterai de la proscription, c'est le *Levier de Roonhuyzen*; il n'en est pas de moins composé, de plus innocent, ni d'un usage mieux entendu. Le Levier ne blesse ni ne déchire, ni ne meurtrit. Il ne prévient point la nature, il ne la violente pas; il la sert, il la seconde, il s'accommode aux difficultés presque sans effort, et sans aucun risque, il change la position qui forme l'obstacle, il la rectifie et dispose ainsi l'accouchement. Autant la construction de cet instrument est simple, autant est aisé l'art de s'en servir.” *Ibid.* These quotations are taken from *Herbiniaux*, T. i. p. 43.

degree, either the woman or child; while on the other hand, they have been taught to believe, that * contusions of the neck of the bladder, lacerations of the perinæum, and their consequences, suppression or incontinence of urine, with suppurations of the pudenda, are the almost constant accidents attendant upon the use of the lever. But it will be easy to show that these accidents, when they have occurred, were not the necessary consequences of using this instrument, but of the preposterous and improper application of it.

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* "Mais souvent,—says Prof. Camper,—l'urethre en est fort endommagé, souvent le périnée se fend plus que dans l'accouchement naturel, et que lors qu'on se sert d'un forceps quelconque." *Mem. de l'Acad. de Chir. T. v. p. 743.*

"Notwithstanding the seeming simplicity of the lever, its use may be attended with the utmost danger; for as the symphisis of the pubes is the centre from which it acts, and the resting point upon which the whole stress is laid, whenever much force is applied to bring down the head, action and reaction being the same, the vagina, neck of the bladder, and nervous parts, may be so violently bruised as to occasion mortification, or even the very symphisis of the pubes might happen to give way." *Description and use of the forceps with three blades, by Dr. John Leake.*

So much were the early possessors of the lever attached to it, that many of them, like the inventors of the forceps, imagined they could deliver with it in all cases, when the head of the child presented; therefore, utterly discarding the crotchet, and all cutting instruments, they obstinately persevered in their attempts to bring the head with it, even when the pelvis was so narrow, or the head of the child so large, that it was impossible to effect it, without doing irreparable injury to the woman.* But the great character that many of the professors of midwifery obtained by the use of the lever, are proofs that they were not all infected with this error. "Johannes de Bruyn," says Baron Van Swieten, "*Quadraginta duorum annorum spatio, octingentos infantes, capite in angusta pelvi incuneatos hærentes, eduxit vivos?*" And other practitioners, who participated of the secret, at the same period, made use of it successfully in
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* Ils travailloient jusqu' à ce que la tête de l'enfant, à la fin étouffé, fût poussée audehors; ou que la mere, aussi bien que l'enfant, eussent rendu l'ame.—Mem. de L'Acad. Royale de Chirurgie, tom. v. p. 739.

a much greater number of cases *. The same reputation and success we have seen continue to follow the use of it to the present time †. And although Mr. Dease professes himself to have been unfortunate both in the use of the lever and forceps, yet he appears finally to have determined in favour of the lever, as his extractor is intended only as a modification of that instrument. As my situation at the Westminster General Dispensary ‡ affords me frequent opportunities of attending difficult labours, it enables me to bear testimony to the safety with which the lever may be used, as well as to its efficacy. I have never seen more injury done to the woman by it, than what a few days rest has entirely dissipated, nor more than a small contusion upon the head of the child, of as little consequence. Neither have I been disappointed in my expectation from it, but have always been able

* Comment. in Aph. Boerh. T. iv. p. 548.

† See Tittlingh's and Berkman's Tables before quoted.

‡ Upwards of eight hundred women are annually delivered by the midwives of that charity.

to terminate the labour with it, whenever there has been space sufficient in the pelvis to admit the head of the child to pass through it undiminished: and that by an operation generally as easy as it was successful. This opinion of the safety and utility of the lever will be farther strengthened by considering its make and mode of operating *. As it consists of a single plate of iron, of a moderate thickness; the space it occupies when introduced into the vagina can never occasion any obstacle to the descent of the head of the child; and when acting, it neither distends the soft parts of the woman, nor

• “*Simplicissimum enim est instrumentum, parvæ molis, facile occultandum, ne parturiens et adstantes instrumentorum apparatu terreantur. Unde dum latebat hoc arcanum, plurimi crediderunt, Roonhuyfianos obstetricantes nullo instrumento uti, sed peculiari, ipsis solis nota, encheiresi difficiles illos partus tam feliciter, et sæpe paucorum minutorum spatio, absolvere.*” And a little farther on, “*Magnam præterea utilitatem habet, quod potentia vectis agat in os occipitis, quod firmissimum est inter ossa capitis foetus. Per forcipem autem prehensum caput, comprimitur, et oblongius redditur; quod juvat quidem exitum, sed et simul semper metum relinquit, ne molle encephalon, hac compressione lædatur.*” Van Swieten. *Comment. in Aph. Boerh.* T. iv, p. 547.

so compresses the head of the child as to occasion any mischief to the brain; but exerting its force against the occipital or temporal bones of the fœtus, and generally against a ramus of the pubes of the woman, parts the least liable to be injured, and best adapted to admit of pressure, it cannot, without great mismanagement, do injury to either of them.

In respect to the choice of the lever, I have been principally solicitous to find what would answer in the more difficult cases; that is, when one half, at the least, of the head, is detained by its bulk above the brim of the pelvis. When it has entirely descended, and lies loose in the vagina, only waiting the renewal of the pains, (which sometimes in a surprising manner, cease for many hours, when the midwife or attendant, from the preceding progress of the labour, have expected in a few minutes to receive the child); in such cases, which frequently happen, a blade of the short forceps, or any common lever, will succeed, and the accoucheur will gain great honour with little labour. But in the former more exertion and management

ment is wanted ; and it was not till after several trials that I obtained what I was in search of.

The first lever I made use of, was only ten inches long, consisting of an iron blade fixed in a wooden handle, curved at its extremity, and open like the blade of the forceps. This size, I adopted to avoid doing that mischief which I had been told was so frequently occasioned by the lever : but finding I could not exert sufficient power with this, I increased its length to about twelve inches ; and this in most cases will be found to answer the intention. Being convinced however, from repeated trials with this, that no danger whatever was to be apprehended from instruments of this kind, when properly managed ; and finding cases where the head was not within the power even of this instrument, but which I yet believed might be delivered with the lever, I ordered one to be made entirely of iron, curved at each extremity, thirteen inches and a half long, one inch and an eighth in width, increasing to an inch and a half at that end which is commonly

monly used, carefully smoothed and rounded at each extremity in the manner the forceps are usually finished, plain on its inner surface, but with its back convex, and of a sufficient thickness to prevent its bending during the operation of extracting the head of the child, an accident which happened to me twice, when I used a smaller lever with a round stem to make it more portable, but without the least injury to the woman or the child.

The curves of this lever are nearly equal, and about the depth of the largest of Roonhuysens; which I have found the most generally useful size. One extremity is made thinner and narrower than the other, this end I have been obliged to use in some cases, where the head was so wedged as not to admit the larger extremity.

However formidable this instrument may appear, from its bulk, I can affirm, from experience, having used it safely and successfully in several very difficult cases, that it is not on that account more liable to do mischief; on the contrary, by affording sufficient space for the hands of the operator,

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it is more easily kept from pressing upon, and injuring the parts of the woman. It may, nevertheless, not be amiss for practitioners to begin with using a small one, increasing the size as they acquire skill in handling it.

I have never used the cord or strap, which appears to have been a part of the original invention. It seems likely to embarrass the operator, and takes from the instrument a part of its simplicity, for which it is so deserving of commendation. M. Tittingh, I observe, takes no notice of it in his Letter to M. Herbiniaux; whence it seems likely he has discarded it.

I have also left off covering my lever with leather, or plaster, which not only unnecessarily increased its bulk, and thence added to the difficulty of introducing it, but served to imbibe filth, from which it was not easy to keep it free.

As the directions given by Dr. Vischer and Dr. Vandepoll, relative to the manner of using the lever, are by no means complete, I will endeavour to supply what is deficient, and to adapt them to the method of placing women, practised in this country, which

differs materially from that used on the continent. But before I proceed to these, I shall take notice of a general rule that has been adopted in using the forceps, from whence the necessity of introducing the lever into general practice will be more apparent.

From the first introduction of the forceps into practice, there have not been wanting interested persons, who knowing how agreeable it was to the prejudices of the world, and consulting their own emolument, rather than the honour of the profession or the interests of humanity, have affected to affirm, they could terminate all those labours in which that instrument is directed to be employed, with equal safety and advantage with their hands alone. This doctrine, so repugnant to truth and experience, has unfortunately met with support from some celebrated names, both on the continent* and in this country; and it is still

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* The principal of these were Deventer in Holland, Mowbray, Sir Richard Manningham and Exton in this country. Deventer extended the practice of turning (at first only used when the child presented transversely, or in cases of flooding) to all cases where the head is fixed in

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too prevalent, particularly in small towns and villages; where habits, of whatsoever kind,

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the pelvis. "*Quando dolorum efficia, infantes expelli non possunt, Obstetricante manu opus est, qua commodius semper previis pedibus quam capite educuntur.*" *Oper. chirurg.* 4to. p. 146. But when the head of the child, by the continuance of the labour pains, is found so firmly wedged in the pelvis, that it cannot be put back, he advises the hand to be introduced into the vagina, with the back to the Sacrum, and the fingers passed within the os uteri, and made to rest upon the head of the child, then, during a pain, the hand, he observes, must be pressed back with such force as to move the coccyx, and thence to enlarge the passage. Deventer had a high opinion of the efficacy of this manœuvre, which he kept many years secret; probably hoping by it to balance the reputation the Chamberlens and Roonhuyfen, with whom he was cotemporary, gained by the use of the forceps, which they kept carefully concealed. Mowbray who adopted this system of Deventer, is very earnest in decrying the use of instruments, but the air of mystery which pervades his work, together with his unpardonable falsehood, relative to what he calls the *Suyger*, which he pretends to have repeatedly seen, and which he says, almost constantly precedes the birth of the child in the labours of the wives of the Dutch Mariners, (see his *Female Physician*, p. 375.) have deservedly brought his name and writings into contempt. Sir Richard Manningham's *Compendium artis Obstetricariae* is little more than an abridgment of Deventer's work; the whole doctrine of which he adopts, and in many place the words also, although without once naming that author;

take deeper root, and are with more difficulty corrected than in large and populous cities. In compliance with this maxim, whenever the head of the child is detained in the pelvis, if there is space sufficient to admit the hand, they invariably attempt to turn it and deliver by the feet. But when the pelvis is narrow, the resistance to the passage of the head of the child will be so great as to occasion its destruction, and the uterus and the internal surface of the vagina of the woman will at the same time be so bruised as to put her life also in the most imminent danger, or if she escape with that, to subject her to the most dreadful diseases during the remainder of her days. For the continuance of this practice, they are in some degree excusable, from

thor; in conclusion he declares, that in more than thirty years extensive practice in Midwifery, he did not remember to have had occasion to use the forceps more than three times. Aph. Med. p. 136. Extton, who received the rudiments of his education from Chapman, was at the first, an advocate for the forceps, but becoming afterwards a pupil to Manningham, he relinquished them, and adopted the practice of forcing back the os coccygis, by which he says, he obtained all the advantage he had before gained by using the forceps. Introduction to a System of Midwifery, p. 6.

from observing that the most celebrated writers upon the subject, direct the forceps to be used with such cautions and limitations, as amount almost to a prohibition, and in the consequences are nearly as fatal to the woman, in many cases, as when not used at all. I allude to the direction to abstain from using the forceps until the head of the child has passed into and entirely fills the little pelvis. If this doctrine is founded on experience, then is the benefit to be derived from the forceps very little and insignificant indeed; and they are by no means deserving the contention they have occasioned, or the pains those very gentlemen have taken to improve and regulate them. These precautions therefore, I consider, as only intended for pupils and young practitioners, and declarative of the difficulty and danger of using the forceps, except by persons of great experience and judgment. But as it must necessarily happen, that cases, out of the reach of the forceps, according to these restrictions, must occur, where it would be dangerous to delay the delivery, and where it would be barbarous to have recourse to the crotchet, to assist in these cases, it is, that an instrument was wanted,

easy in its application, and powerful in its effect, such a one as is the lever; which may be used with equal safety and advantage whenever the head is within its sphere of action: because the lever pressing upon the head of the child in one point only, on or near the basis of the os occipitis, as was before noticed, allows it to extend itself in every other direction, so as to fill equally and entirely the cavity of the pelvis, which when embraced by the two blades of the forceps, it is prohibited from doing.

The cases in which the lever may be advantageously employed, have so near an affinity with those in which we are under the necessity of using the perforator and crotchet, being often only shades or degrees of the same obstacle, that it is frequently impossible to determine with certainty, in the commencement of labour, which instrument it may be necessary to make use of. It therefore seems proper to consider the general progress of a labour in that class, which is usually denominated laborious, that is, where the child, presenting with its head, is protruded so slowly, and with so much difficulty, that its own life, as well as that of the

the mother, are in imminent danger; and to prescribe a general method of conducting women through such difficult labours.

A woman in labour is to be treated as if suffering spurious pains, so long as the os uteri either remains thick, rigid and close, or after being a little open, does not go on dilating. If she is hot, and the vessels are full, she must be blooded, the bowels must be emptied by glysters, and by small doses of salts, castor oil, or some other fit aperient; and at night a sufficient dose of laudanum should be given to procure rest. The diet in the mean time must be regulated, and the air of the room kept cool, and the woman must be admonished not to strain during the pains, but to leave them to exert their natural force; and this process must be continued until the os externum as well as the os internum are so relaxed as to admit easily the passing two or three fingers, or the hand if necessary, into the vagina, to examine the situation of the head of the child, and to explore the capacity of the pelvis.

If the head of the child is found still resting above the brim of the pelvis, a portion of the scalp only, or a very small part of the

bony casque, being thrust down through that strait, which is found to be preternaturally narrow, the os sacrum projecting, and approaching too near the pubes, there can be little hopes of a child passing through alive, under such circumstances, and through such a pelvis *. The soft parts of the woman are now prepared, and the sooner we begin to deliver by opening the head of the child and extracting it with the crotchet, with the greater success and advantage to the woman, (whose safety is now alone to be consulted) will the operation be terminated.

But if half, or the major part of the skull has been forced through the brim of the pelvis, and notwithstanding the continuance of the labour pains, remains firmly wedged there, making no progress, or only an almost insensible one, for the space of four or five

* It has lately been usual to give the dimensions of the pelvis in inches, and to determine upon the necessity of using the crotchet by the number of inches or parts of inches the largest opening, which in a distorted pelvis is always on one side, is supposed to measure. But as this cannot be accurately done, I have thought it better to take the indications from circumstances that are more obvious, and about which practitioners are more likely to be agreed.

five hours, in whatever position it may offer, we must proceed to deliver with the lever, lest by longer waiting, the pains should flag or cease, the strength of the woman be exhausted, the discharges from the vagina should become putrid and acrid, and in fine, inflammation or fever take place; which, afterwards it will be out of our power to remove or prevent the effects of. But if we should begin to operate before the period I have described, there would be danger of lacerating the perinæum, and of bruising or injuring the vagina, or the uterus itself, particularly if it be the first child. And this danger will be greater when using the forceps than the lever.

But it may be asked, are we in all cases to proceed to deliver with instruments, as soon as the parts of the woman are so far relaxed as to afford a passage to the head of the child? How long we may wait, after this period, before there is danger of inflammation or of some dreadful mischief, it is impossible by any fixed rule to determine; as that will be very different in different constitutions. Some women will bear the continuance of violent pains several days without material mischief, whilst

whilst others will be hurried into fevers, or convulsions, at the end of a few hours only. In general, women with their first children are soonest injured. And when the head of the child is so pressed into the pelvis as to deny egress to the urine, the danger is imminent.

But it will be sufficient to have pointed out the period when the lever may be used with safety; the practitioner will determine in each particular case, from his knowledge of the constitution of the patient, and from the circumstances before him.

The head of the child being sufficiently low, to afford a reasonable hope of success with the lever, the woman is to be placed on her left side, as in a natural labour, when one or two fingers of the right hand must be introduced between the pubes and the head of the child, wherever there is most room, (which will generally be a little on one side of the symphysis of the pubes) with the back of the fingers to the pubes; when the end of the lever, anointed with lard, must be gradually insinuated between the head of the child and the fingers, with which also the instrument must be guided until it has passed the

the os internum; then the fingers must be withdrawn, and the instrument will readily pass along until it finds a part to rest upon, which will generally be near or upon the mastoid process of the temporal bone, or on the basis of the os occipitis; and according as the head of the child is more or less obliquely situated in the pelvis, or in other words, as the occiput of the child is nearer to, or farther from the pubes, the stem of the lever will rest either against the pubes or the ischium. Taking now the handle of the lever in his right hand, the accoucheur must, during a pain, raise it gradually over the pubes and abdomen of the woman, his left hand at the same time pressing down the middle of the lever, to which it affords a fulcrum, thus preserving the parts immediately under the pubes, from injury. On the pain ceasing he must rest, and renew his efforts with each returning pain, (which if tardy he may excite by a slight motion of the instrument) until he finds the head of the child pushing out the perinæum, which must be guarded and supported with his left hand, now no longer wanted to press down the centre of the lever, continuing to raise the handle of the

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the lever with his right hand, until the head has so far entered the external passage, that he is sure every obstacle to the birth is removed, when the lever may be slowly withdrawn.

These directions, must however be varied, to suit the different positions in which the head of the child may offer. For when the head of the child presents transversely, one ear being to the pubes and the other to the sacrum, the lever must be introduced obliquely across the pubes; passing it from that side of the pelvis, to which the face is directed, to the opposite side; so that the point of the lever may be made to rest behind the ear or upon the occiput of the child. When the face of the child presents, if the chin points to the sacrum, the lever must be introduced in the manner already directed, either immediately under the symphysis of the pubes, or a little to the right or left of it, according as the face inclines either way. If the chin is turned to the pubes, which is I believe the most usual position, in face presentations, or if the face is turned to the pubes, the lever must be introduced along the sacrum. In this position I should prefer

fer a lever with a large curve, although in this case also I have succeeded with my common lever.

Other positions in which the head of the child may present might be described, but as they would require only a trifling deviation from the rules here laid down, it seems not necessary to mention them. Those who desire a more particular account of them will be abundantly compensated by consulting M. Herbiniaux's book on the subject.

From the above, I think I am authorised to conclude, that the knowledge of the manner of employing the lever may be acquired with greater ease than that of the rules necessary for using the forceps; and if the action of these two instruments be compared, the pre-eminence of the lever will be found to be still more considerable and obvious. For the lever touching the head of the child in one point only, neither alters its shape, nor offers any impediment to its making that turn which we always find it taking in a natural labour. The forceps, on the contrary, by pressing the head on each side and diminishing its bulk in one direction, increases it in the opposite; and by being moved from
blade

blade to blade, the only motion they admit without slipping, necessarily alter the route the head should take. When the lever is used the perinæum is pushed out in form of a tumour, before the os externum is in the least stretched as in a natural labour. With the forceps, the os externum is stretched by the junction of its two blades, as soon as the head begins to descend, and before it enters the hollow of the sacrum and enlarges the perinæum; consequently much more skill and address is required in managing the forceps, to avoid injuring the perinæum, than in using the lever. I could pursue the parallel farther, but I think the above is sufficient to prove, what I professed to show, that considerable advantage will accrue from introducing the lever into general practice, instead of the forceps.

XXX.

XXX. *An account of a very uncommon Blindness in the Eyes of newly born Children.*

By Mr. SAMUEL FARAR, Surgeon, at Deptford. Communicated by Mr. WATSON.
Read March 2, 1790.

ABOUT nine years since, I was desired to see a child, who was about a month old, and apparently blind, having the cornea of both eyes opake, so that not the least of the iris was to be seen.

My opinion was, that nothing could be done in this case, and that the child would for ever be blind.

About a month afterwards the parents informed me there was some alteration in the child's eyes, and requested I would examine them again. I then perceived the opacity to be so much lessened, that I could faintly discern the iris. In two months more the child could perceive light, and from that period, the sight progressively increased; and before it was ten months old, the recovery was complete.

About three years after, another child was born of the same parents, with exactly the same

same appearances. Having seen the progress of the first case, I concluded that in this, the event would be nearly the same, and indeed so it happened, in much about the same space of time.

The manner in which the cornea acquired its transparency, was, in these cases, remarkably curious: the external edge, first growing thin, soon after became clear and transparent; and after this manner the whole surface of the cornea brightened up, the center being the last spot that recovered its transparency.

Two years ago the same persons had a third child born with the same appearances, except that the opaque part seemed thicker; and that a short round ligament about three eighths of an inch long, and of the thickness of a probe, arose from the inner part of the upper eye lid, was attached to the inferior edge of the cornea, and when the eye lid lifted up, acted in some measure, like an additional muscle, by partly raising the globe of the eye. This ligament soon began to waste, and in about three weeks quite vanished.

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From having seen the two preceding instances of sight restored, and from the disappearance of this ligament, I thought the opacity of the cornea in this child too, would soon begin to give way, but, in this, I was deceived ; a whole year having elapsed before the smallest alteration took place.

At the end of a year, the child seemed to be much diverted by passing its hand perpetually with the fingers extended before its eyes; and this has been its constant amusement from that time. The opacity has slowly diminished, but much of it yet remains.

The child is now two years of age, but as it can find its way about the house, and distinguishes colours and different objects, by holding its head in a particular direction, I think in time, the opacity will entirely disappear.

Deptford,

February 2d. 1795,

XXXI. *Three Instances of sudden Death, with the Appearances on Dissection.* By JAMES CARMICHAEL SMYTH, M.D. *Fellow of the College of Physicians, and of the Royal Society; and Physician Extraordinary to his Majesty.* Read March 2, 1790.

ALTHOUGH the science of physic is seldom greatly promoted by recording single cases, yet the society have very properly shewn that they do not consider these as altogether undeserving their notice; for when a particular case is so uncommon, that the experience of any one person cannot possibly furnish a sufficient number of examples to admit of a general conclusion, or where it serves to illustrate or confirm any doubtful physiological or practical fact; it certainly merits a place in a collection such as the present. Without farther preface or apology then, I shall relate the following.

1st. *Sudden*

*1st. Sudden Death occasioned by an Ulcer in
the Stomach.*

A young lady about fifteen years of age, and remarkably healthy until the preceding summer, when she occasionally complained of a pain at her stomach, but so trifling, that her family, imputing it to her particular time of life, paid little attention to it, was in the beginning of March last, after having supped* in a very moderate manner, taken ill at going to bed with violent pain at the stomach, sickness, and vomiting, which symptoms continued great part of the night. Next morning, between eleven and twelve o'clock, I found her, though still in bed, cheerful, and neither complaining of sickness nor of pain; but her pulse was extremely quick, with considerable tension and tenderness of the præcordia and abdomen, which shewed that her illness was of a more serious nature than her

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relations

* Her supper was a roasted potatoe, and a glass of jelly.

relations apprehended ; and determined me to call again in the evening. I ordered for the present an emollient glyster, the præcordia and abdomen to be fomented, and a camphorated saline draught, with the addition of about twenty grains of an absorbant powder, and three or four drops of the tinct. opii, to be given every four hours. But this, and every thing else she took, was immediately thrown up ; yet she passed the day tolerably well, expressed great relief from the fomentation, and in the evening was in good spirits, until about nine o'clock when she became suddenly restless, and with uncommon eagerness and anxiety desired to be raised up in bed, spoke in a strong voice to one of her sisters who was assisting her, and instantly fell back without sense, motion, or the least appearance of life. I came into the room a few minutes after the accident, and at first was persuaded that she had only fainted, but upon approaching the body, I was soon undeceived, and found that she was actually dead.

So sudden, and so unexpected a death, made me extremely desirous of ascertaining the

the cause; and the family being equally anxious, readily consented to have the body opened, which was accordingly done two days afterwards by Messrs. Home and Bel, gentlemen of known anatomical accuracy and experience.

The abdomen contained two or three quarts of a turbid fluid, and the intestines every where had the appearance of having suffered a high degree of peritonæal inflammation; but the cause of her sudden death still remained undiscovered until the stomach being brought forward, I perceived on its anterior part nearly towards the cardia, a round opening sufficient to have admitted a common sized quill; and which, upon examining this organ more particularly, appeared evidently the effect of an internal ulcer that had destroyed all the coats of the stomach but the peritonæal, which last had probably burst or given way during the action of vomiting. The ulcer was round, about the size of a sixpence, and with hard or callous edges, a proof that it had been of some standing; the

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coats

coats of the stomach, at this part, were also considerably thickened, though every where else they had a natural appearance.

We likewise observed a number of diseased lymphatic glands, in the duplicature of the peritonæum, where that membrane passes off from the smaller or superior curvature of the stomach to the pancreas. But having obtained complete information respecting the immediate cause of her death, we did not examine the body any further.

That a rupture or wound of the stomach will occasion sudden death, is a fact of which there have been too many examples to be now called in question; but in the preceding history, there are two other circumstances deserving our notice.

1st. It is evident that an ulcer, at least of the scrophulous kind, and such I apprehend the preceding to have been, may exist on so sensible an organ as the stomach without causing any great pain or uneasiness.

2^{dly}. The above case renders probable the opinion, that peritonæal inflammation may be excited, from the admission of any other extra-

extraneous fluid as well as of air, into the cavity of the abdomen.

2d. *Sudden Death caused by an Effusion, or Extravasation of bloody Serum into the cellular Substance of the Lungs.*

A lady about forty years of age, tall, well-made, the mother of several children, and who, excepting some trifling stomach complaints, had in general enjoyed very good health, was, in the month of October 1789, seized with a fever. In the beginning of her illness she complained greatly of noise in her head, of deafness, and of a weight, or bar, as she expressed herself, across her stomach; her pulse was too small and frequent to be accurately counted, but it was not less than 140 pulsations in a minute; her tongue was covered with aphthæ, which, in all probability, occupied the whole alimentary canal; as white sloughs, were for a considerable time, mixed with the evacuations by stool: she had also a cough, with an expectoration of mucus, but she expectorated easily, and made no complaint of

pain in her chest, nor was her breathing in the least affected.

For some time after I first saw her, she was delirious in the night, and for two or three days, was not perfectly sensible even during the day; she once bled at the nose, but the hæmorrhage was soon stopped.

In about ten or twelve days the thrush was entirely gone off; her tongue, though red, was moist; the heat of the body, excepting now and then that she had flushings in the face, was moderate; her pulse was firm and regular, and at the end of three weeks was only 90 in the minute. She still continued deaf; but had no delirium even in the night; no tremor; no difficulty in breathing; slept with her head remarkably low, could sit up in bed without assistance; and as she took plenty of light nourishment, wine, bark, &c. there was every reason to entertain hopes of her speedy recovery. In the midst of these flattering appearances, and after having passed a good night, she was suddenly seized, between eight and nine o'clock in the morning, with great difficulty of breathing. At ten I found her insensible, breathing with the greatest difficulty,

ficulty, though raised up in bed; her features altered, the pupils of the eyes greatly dilated, and not affected by light; and though the pulse, even at this time was regular and firm, and not much increased in frequency, she was evidently in the agonies of death. As she could still swallow, wine warmed with spices, volatiles, musk, &c. were administered, with a view to relieve her breathing, but all in vain, she breathed with more and more difficulty for about sixteen hours, and then expired.

In this case, as in the preceding, every conjecture that could be formed, respecting the cause of the patient's death, was liable to considerable objections. It was evident, that the fever had not been directly or immediately the cause of her death, as the febrile symptoms had almost entirely ceased; nor was there an appearance of any fresh exacerbation; on the contrary, the pulse was remarkably good to the last. There had been no previous pneumonic inflammation; no appearance of diseased lungs; nor had her breathing been in the slightest degree affected during the whole of her illness: so sudden and so great a difficulty of breathing

breathing then, could only be occasioned by spasm; or by the effusion of a fluid into the cellular substance of the lungs or cavity of the chest.

As for spasm, I have seldom seen it prove fatal, even in gouty subjects, unless where the lungs were previously diseased.

An effusion of air, or the pure emphysema of the lungs, is a very rare disease; I have only met with one instance of it on dissection, and I know but one more upon record.

An effusion of blood, or hæmorrhage from the lungs, is not an uncommon accident; but it is generally attended with a discharge of blood from the trachea, and only kills when the blood is poured out faster than it can be expectorated.

An anasarca of the lungs, or dropsy of the chest, could scarcely be supposed to have taken place so suddenly. The accumulation of serum is commonly more gradual, and gives intimation of its presence by appearances and symptoms in other parts of the body. In short, all conjecture was vain, and our doubts could only be resolved by the examination of the body, which was accordingly

ingly done in my presence by Mess. Home and Bel.

As she had complained so much during her illness of uncommon noise in the head, of deafness, &c. we began by examining the head; but here, there was not the slightest appearance of disease, the brain and its membranes were in the most perfect state. We next examined the contents of the abdomen, which were equally sound, excepting a small portion of the ileum, where the coats of that intestine, which had been in contact with a diseased mesenteric gland, were thickened with evident marks of inflammation, and internally there was a small ulceration, which had eroded all the coats of the intestine, except the exterior or peritonæal.

In the last place we proceeded to examine the contents of the thorax. There was but little serum, either in the cavity of the chest or pericardium; the heart and lungs in general were free from disease, only the left lobe, especially towards the inferior part, was filled with bloody serum, and in hardness resembled the natural firmness of the liver.

It

It was evident then that a sudden effusion or transfusion of blood and of serum into the left lobe of the lungs had caused the difficulty of breathing, and sudden death of the patient. Hæmorrhages are not unusual in putrid fevers, and they occurred very frequently in the fevers of last autumn, but an effusion of blood into the lungs, without hæmoptysis, is certainly a very uncommon case, and what I never met with before, excepting once after a peripneumony.

3d. *An Angina Laryngea, and sudden Suffocation from a scirrhus Tumor situate on the interior and posterior Part of the Larynx.*

A gentleman of Epsom, in Surrey, about sixty years of age, extremely healthy, active, and fond of fox hunting; which amusement, during the winter season, he commonly took once or twice a week, was seized some time in the autumn of the year 1788 with a hoarseness, which at first was attended with no farther inconvenience than the loss of voice; though in the course of the
winter,

winter, he, particularly after hunting, perceived also some slight difficulty in breathing, but so inconsiderable, that he paid no attention to it. In the beginning of February, the year following, after hunting for several days during severe cold weather, the difficulty of breathing suddenly increased to a very alarming height. I was immediately sent for, and upon my arrival at Epsom, found him extremely faint and low, sitting in a great chair with the collar of his shirt unbuttoned, and, even in that situation in danger of suffocation. His inspiration was slow, difficult, and performed with a loud noise, exactly resembling the breathing of a child in the disease commonly, though improperly, called angina laryngea. His pulse was regular, and not more frequent than when in health; his tongue was moist and clean; nor was his skin hotter than usual. In short, it was evident, even to himself, that the cause of his difficult breathing was situate in the larynx; but as he had no pain, and there was no swelling or inflammation to be perceived, either externally
or

or internally, the nature of that cause could only be guessed at.

Fomentations, stimulating cataplasms, and blisters, were in succession applied to the larynx; he was vomited with tartar emetic, took various antispasmodics, as musk, volatile alkali and vitriolic æther; and fumigations both moist and dry, were occasionally employed. His breathing, by this treatment, was somewhat relieved, and he expectorated a little viscid mucus.

Two days after this, I was again requested to visit him, and went with a full determination to advise him, (knowing that he was a man of a very firm mind) to submit to the operation of bronchotomy. Upon my arrival, however, at his house I was informed that he had spit up some purulent matter, and perceived that he breathed with considerably less difficulty than when I last saw him; but altho' he was then perfectly sensible, and had no symptom of fever, he had been delirious in the night, which had greatly alarmed his family, and was the reason of their again sending for me.

I now began to entertain hopes that the tumor, which probably was the cause, impeding

impeding the free ingress of the air, was, though indolent, capable of suppuration, and of being gradually resolved. I therefore desired that his diet might be somewhat more generous, and allowed him a little wine; ordering at the same time some pills of the extract of the cicuta with calomel, and a decoction of the peruvian bark.

The fate of my patient, however, did not remain long in suspense, for in a few days he was seized, whilst at dinner, with a kind of fit or spasm, which suddenly carried him off. I immediately wrote to Mr. Mayd, the surgeon who attended him, to apply in my name to the family for their permission to have the body examined; and his letter is the best account I can give of the dissection.

Epsom, Feb. 14, 1789.

Dear Sir,

Mr. ——— having consented to the inspection of his father's body, I now take the liberty of informing you of the result. There was no appearance of disease in the integuments, muscles, or lymphatic glands
in

in the neck ; the thyroid gland was a little enlarged, and a good deal inflamed, though not hard, which was probably caused by the blisters : no appearance of disease in the pharynx, or œsophagus ; but upon cutting through the posterior part of the cartilages of the larynx, which were very considerably ossified, I perceived a pretty large tumor, extending two fingers breadth on the membrane lining the internal surface of the cartilages ; its position was immediately below the rima glottidis on the right side, and it completely filled up the passage ; the middle of the tumor had suppurated and burst, and there was a cavity in it sufficient to admit a large pea ; the part of it that had not suppurated was very hard, and a small ulceration extended quite up to the top of the larynx ; neither the inflammation nor the ulceration extended at all downwards towards the trachea. Is it not a singular occurrence, that so large a tumor, coming to suppuration, should be attended with so little pain ?

(Signed) J. W. MAYD.

I shall

I shall make no comment on the preceding history, and only at present remark, that although I had never before met with a case exactly similar, or which proved so immediately fatal; yet I had seen two examples of chronic angina laryngea, where the breathing was equally slow, difficult, and accompanied with the same sonorous noise, and where the cause, which I had no opportunity of ascertaining by dissection, was, in all probability a similar tumor of the indolent or skirrhus kind.

XXXII. *Of the danger of wounding the epigastric Artery in the operation of Tapping for the Ascites. By the same. Read March 2, 1790.*

A MAN about thirty-six years of age, by trade a blacksmith, was received for an ascites into the Middlesex Hospital: the dropy was evidently the consequence of a diseased liver, and yet he had more the appearance of strength and vigour than is common for persons labouring under this complaint. The usual treatment by purgatives, diuretics, mercurial frictions, &c. having been tried without success, and the patient suffering great uneasiness from the size and tension of his belly, he was ordered to be tapped. Nothing worthy of notice occurred during the operation; but as a portion only of the water (at the desire of my ingenious colleague, Dr. Milman) was taken away, the canula properly secured was left in the abdomen, and the usual bandages were applied.

Upon

Upon visiting the Hospital the day following I found my patient extremely faint, his pulse very low and quick, and the abdomen almost as much distended as before the operation: desirous of giving him farther relief, the plug or stopper of the canula, was taken out, but no discharge of water followed. The surgeon, supposing that some portion of the omentum probably stopped the orifice of the canula, passed a probe through it without success: in short, after a variety of trials, all in vain, the canula was withdrawn, (the extremity of which was filled up by a coagulum of blood) the usual dressings and bandages were applied, and the man had some cordial medicine given him; but he gradually sunk, and died in about eight and forty hours after the operation.

His death gave me great uneasiness, as I was not without apprehension, that from keeping the canula in the abdomen, air had been admitted into the cavity, which had occasioned peritoneal inflammation, and proved the immediate cause of the death of the patient. Anxious to be satisfied of
 I i 2 this

this fact, I ordered the body to be examined; to my great joy, there was not the smallest appearance of peritoneal inflammation; and it was evident that the sudden death of the poor man had been entirely owing to his bleeding inwardly from the epigastric artery, wounded by the trocar in performing the operation. This accident, which was new to me, I mentioned to the late Dr. Hunter, who said that it was also new to him; but, from the situation of the artery, not at all unlikely to happen; nor could it be avoided with certainty by the most skilful surgeon, as the course of this artery varied so much in different subjects, and there being no resistance to the finger, consequently no pulsation, its place could not be accurately ascertained.

About a twelvemonth after this misfortune at the Hospital, I had occasion to observe the same thing in private practice. A patient to whom I had recommended the paracentesis, requested that I would be present during the operation. It was performed in the usual manner; but the surgeon, was much surprized to observe that the serum was mixed with blood, and that it flowed

with

with great difficulty. Suspecting what had happened, I advised him, after about a gallon of fluid had been evacuated, to desist for the present, and bandage up his patient. In the serum taken away there was a very large coagulum of blood, which shewed that the hæmorrhage had been considerable. The patient, however, did not, as in the preceding instance, sink immediately, but lived some weeks after the operation.

Having been satisfied, from Dr. Hunter, that the accident above related might happen to the most skilful person, I inquired amongst the surgeons of my acquaintance, if they had ever met with any thing of the kind. Mr. Watson, of the Westminster Hospital, told me, he had seen the accident three times; Mr. Howard, of the Middlesex Hospital, said, he had seen two instances of it; and another Gentleman of the same name, Mr. Howard of Argyle-street, informed me, that he also had seen two instances, in one of which the wound proved fatal without any external hæmorrhage. I have been told likewise that a pa-

tient died not long ago at St. Thomas's Hospital* owing to the same misfortune.

But if such an accident occurs, I may say, so frequently, it is a considerable objection to the operation, and it should be a serious consideration with surgeons how to guard against the fatal consequence that is likely to follow from wounding this artery. Where the blood flows externally, coming away with the serum, it is evident what has happened, and if the artery runs so near the surface that it can easily be taken up, such precaution should not be neglected, but where, as in the case I have related, there is no appearance of hæmorrhage, a person that did not know that such an accident might happen, could have no idea of the true cause of the sinking, quick pulse,

* It is necessary to remark, that the author of this paper, not having been present at some meetings of the Society, was unacquainted with the observations on this subject of Messrs. Ford and Pearson; but though this paper was only lately read, the accident in question, with the circumstances above related, were communicated to the Society, and were the subject of public conversation at their meetings several years ago.

pulse, distention of the abdomen, and sudden death of his patient; and even if he did know it, I am extremely doubtful when the artery lies very deep, if it could be taken up by a needle, or the hæmorrhage stopt. But I leave this question to be decided by gentlemen who understand the resources of their profession much better than I do; satisfied with having pointed out the fact, and warned physicians of a danger, to which their patients are exposed, from the operation of the paracentesis abdominis.

XXXIII. *Of the Aponia Spasmodica.* By the
same. Read March 16, 1790.

THE loss of speech and voice is always mentioned by practical writers as a paralytic symptom, and one of those which is only to be met with accompanying a hemiplegia, or preceding an apoplexy. This observation, though certainly just, admits however of some exceptions; for I have met with instances, where the loss of speech and voice, so far from being a paralytic symptom, was evidently the consequence of a state of muscular contraction, directly opposite to the nature of this complaint. But as all matters of fact are to be established by examples, not by reasoning, I shall take the liberty of relating the following cases in support of the opinion here advanced.

C A S E I.

A young woman, about seventeen or eighteen years of age, was brought from
Hertford-

Hertfordshire to the Middlesex Hospital. Not being able to speak she could give no account of her complaints ; and her friends who came with her to town having neglected to do it, we were at first under some little embarrassment. I soon, however, perceived, that though she could not speak, she was perfectly sensible, and had no symptom either of palsy or of fever. She could put out her tongue without difficulty, and her mouth was not in the least drawn aside. Besides these circumstances, which were obvious at first sight, I learnt from herself, that she had lost her speech some months before, and that it was for the recovery of this that she had been brought to town.

Having observed her tongue a little white, I ordered her an emetic, and a cordial or nervous medicine to be taken every six hours.

Next day, on visiting the Hospital, I was greatly surprized to find that she had already recovered her speech, and was told by herself, as well as by the nurse and patients in the ward, that, so soon as the emetic began to operate, she found herself able to speak.

She

She could now inform me of the particulars of her very singular illness, the commencement of which she dated from having drank, along with some other young persons, a large quantity of cold water for a wager. She said, that soon after this frolick she had been seized with a fever, during which she was delirious; that upon recovering her senses she perceived that she could not speak; nor from that time, tho' she regained her strength, appetite, &c. was she ever capable of articulating a syllable, until she took the emetic. During the whole of her illness she was not sensible of any pain, giddiness, or other uneasiness, excepting a tightness and sense of constriction in her throat, and about the root of her tongue, and which was removed by the emetic.

She remained only a few days in the Hospital, for having no return of her complaint, she requested to be discharged.

CASE

C A S E II.

A man, about fifty years of age, was in the year 1764 received into the Infirmary of Edinburgh. He was of a very delicate constitution, extremely irritable, and greatly emaciated, his body having suffered by disease, and his mind from the misfortunes of life. He had for several years been subject to irregular attacks of an intermittent fever, to hysterical spasms, chokings, convulsions, and paresis or palsy: and a few months before his admission into the Hospital, after having been guilty of some irregularity, he had a severe return of fever, attended with vomiting, tremors, sense of suffocation, delirium, &c. all which symptoms terminated in a paresis of the lower extremities, and of the left arm, with a complete aphonia, or loss of speech and voice, a difficulty in swallowing, and even in putting out his tongue; though neither this nor his mouth were in the least drawn aside. He was perfectly sensible of
his

his situation, and gave me in writing a most exact account of his sufferings; he had no appetite for food, and his sleep was disturbed, but his chief complaints were a sense of choking upon attempting to swallow, and a tightness or sense of constriction about his throat and tongue: he was likewise deaf, but this, as afterwards appeared, was chiefly owing to hard'ned wax in the external meatus auditorius. A variety of medicines were administered, from none of which he derived the smallest relief. At last he was ordered to be electrified, and the electricity produced a sudden and very surprizing change on his disorder; of which I was the better able to judge, as I applied the electricity myself. At first he had slight electric shocks, but perceiving that even the slightest occasioned very great pain and uneasiness, I desisted entirely from them, and afterwards only insulated him, taking sparks from the different parts of his body. The first time they were taken from his throat and tongue, he perceived the tightness greatly relieved, and he could more freely put out his tongue; when taken from his mouth, they caused a considerable

ble discharge of saliva. After having been a second time electrified, he could articulate some words; and after the electricity had been employed three or four times, he could speak pretty distinctly: he recovered his voice likewise, and the other symptoms gradually giving way, he was in a short time dismissed the Hospital in perfect health.

C A S E III.

Some years ago I was sent for to a lady, about forty years of age, of a delicate constitution, the mother of several children, subject to rheumatic and pulmonic complaints, and who a short time before had suffered a considerable disappointment in a business of great consequence to her family. She had not probably recovered from the effect of this, when she was one afternoon suddenly seized (during the catamenia, which immediately stopped) with a confusion in her head, giddiness, and total loss of speech. She retained, however, her senses, and though, as may be supposed, greatly agitated

tated and alarmed, possessed completely her recollection and presence of mind; her mouth was not drawn aside, nor had she any symptom of palsy or convulsion. She was immediately put to bed, and some warm cordial medicine given to her.

The morning following, when I saw her, she was much more composed than she had been, the preceding night. She had recovered her speech to a certain degree, what she spoke she pronounced pretty distinctly, but there were still many words that she could not articulate. She complained of confusion in her head, and had now the gout very evidently in her feet, and slightly in her hands.

Upon my visiting her the day following, I found her extremely ill, with violent retching, anxiety, pain at the præcordia, her pulse feeble and intermitting, with cold sweats all over her: enquiring the cause of this change, I was informed that these symptoms had come on suddenly, and that the pain and inflammation of the extremities had disappeared. Blisters and cataplasms were immediately applied to the feet and legs; and from the liberal use

use of cordials, opium, &c. the vomiting, &c. ceased, and next day the pain and inflammation again appeared in the extremities. She remained long ill, and the disease put on a variety of appearances, but her speech was never afterwards in the least affected.

REMARKS,

In the first place it may be proper to observe, that in none of the three instances of aphonia which we have related, was the mouth or tongue drawn aside; nor was there any symptom of hemiplegia, or any threatening of apoplexy; in the first case in particular there could be no reason to suspect palsy, considering the age, constitution, and manner of life of the patient: besides, the complaint, which seemingly originated in an over distention of the stomach with cold water, was suddenly removed by the operation of an emetic; in this respect very unlike to palsy, which, though often suddenly induced, is always slowly removed: whereas spasm, or a diseased contraction

traction of the muscular fibres, is in general as suddenly resolved as it is excited. The complaint was likewise accompanied with a symptom, evidently the result of spasm, viz. a sense of tightness or constriction of the fauces and at the root of the tongue, which being removed at the same time, and by the same means as the aphonia, we may fairly conclude that they were, if not cause and effect, at least effects of the same cause. The well known sympathy between the stomach and fauces, and the effect of emetics, even in nauseating doses, in relieving spasms of the trachea and fauces, are a farther proof of the nature of the aphonia in the example before us.

The second case, may perhaps to some persons appear more equivocal than the first, as the patient was a man, and who, along with aphonia, had some paralytic symptoms; but it should be recollected, that though a man, he had all the delicacy and irritability of a female; and like that sex was subject to tremors, spasms, chokings, &c. even his paralytic symptoms were of the hysterical kind, by which I mean, that they were incomplete, of transient duration, and
not

not attended with any affection of the head, or at least did not originate there ; but though the aphonia was accompanied with palsy, there was no appearance of hemiplegia, either in the face or tongue ; and he had the same feeling of constriction and confinement of the tongue and throat, as in the preceding case : but what puts the matter, in my opinion, beyond a doubt, is the sudden manner in which the complaint was removed by electricity. When this was first applied to the purposes of medicine, it was considered chiefly as a stimulant, and as such employed in the cure of palsy ; a little experience however convinced us, that its efficacy was inconsiderable in the true palsy or hemiplegia ; but it was also soon discovered, that its power, as a sedative in removing pain and spasm, was often very considerable. Judging then not only from the symptoms of the disease, but from the known quality and power of the remedy, it appears probable that the aphonia in this instance, as well as in the foregoing, was rather the effect of spasm than of palsy.

The third case differs in some respects from the other two ; as in this there was no sense of constriction of the fauces, and the head was not perfectly free : on the other hand, there was no appearance of hemiplegia, the senses were not in the least affected, and the complaint went off suddenly upon the gout appearing in the extremities ; nor had the patient, either before or after the attack of aphonia, any paralytic symptom. Upon the whole, the symptoms of all the three cases, fully justify our conclusion, that the aphonia, or loss of speech and voice, in every one of them, was a spasmodic, not a paralytic affection.

Whilst on the subject of aphonia it may not be improper to take notice of another appearance of this disease, which is likewise of the hysterical or spasmodic kind : to distinguish it from the former, it may be called *aphonia spasmodica intermittens*, it being only a temporary loss of speech, or rather a difficulty in articulating, which lasts but a short time, from five minutes to a quarter of an hour, and recurs frequently
in

in the course of the day. I have known three instances of this; the patients were all of them female children, between four and six years of age. The complaint appears to be somewhat of the nature of the Chorea St. Viti, and like that probably occasioned by worms or some other irritation in the bowels, or from teeth. Whatever be the cause, the disease is extremely obstinate; and, though in itself really trivial, and not leading to any serious consequence, occasions great uneasiness to parents. Medicine seems of little use in removing it, and therefore, after cleansing the primæ viæ, I believe our wisest plan is to leave it to time and to the use of cold bathing. I have seen electricity tried here without advantage.

When I wrote the preceding account of the aponia spasmodica, I did not imagine that the disease had ever been noticed

by any practical writer. I have since, found one remarkable instance of it in Sennertus, who looked upon it as a symptom of scurvy. "Vidi alium, cum loquendi potentia auferretur, nonnullis apoplecticum quid esse existimantibus; cui potius partium linguam moventium a vapore, vel seroso humore contractio, et quasi quædam convulsio esset; cum æger ipse postea referret, se eo loci dolorem, et contractionem quandam sensisse." Sennert. de Scorb. sign. cap. iv.

From this single case, which Sauvages has quoted very incorrectly, he has made a distinct species of disease, under the title of mutitas spasmodica; adding, however, the following judicious remark of his own. "Hac specie laborant non raro hystericae, quæ sibi fauces quasi vinculo constrictas sentiunt, et aphonæ aliquandiu remanent." Nosol. Method. Class. vi. Gen. xiv. Spec. 6.

UPON

UPON this paper being read at the Society, Dr. Wells mentioned that he had lately seen an instance of the complaint I had described, and has since favoured me with the following account of it.

“ On the 3d of March 1790, Isabel Sam-
 “ mon, a married woman, forty-three years
 “ of age, of a stout make and fair com-
 “ plexion, applied to me at the Finsbury
 “ Dispensary for relief with respect to con-
 “ vulsive fits, under which she laboured.
 “ She said she had been subject to them for
 “ a long time; that formerly they had never
 “ attacked her oftener than once in two or
 “ three days; but that during the last week
 “ she had experienced several every day,
 “ and that while the fit continued she was
 “ altogether without sense or thought, and,
 “ as she was told, struggled very much.
 “ These circumstances at first induced me
 “ to think the fits to be epileptic, but upon
 “ enquiring more particularly into their his-
 “ tory, I concluded that they were hysteri-
 “ cal; and from this view of them I pre-
 “ scribed such medicines as are usually
 “ given

“ given in like cases. Her complaints con-
 “ tinued without any material alteration
 “ till the 8th of the same month. On that
 “ day, about four o’clock in the afternoon,
 “ upon recovering from a fit, she found
 “ herself entirely deprived of the power of
 “ speaking, or of making any noise what-
 “ soever with her voice, though she was at
 “ the same time in full possession of every
 “ other faculty, both mental and bodily.
 “ In this state I found her on the 10th. I
 “ asked her then, among other things,
 “ whether she felt pain any where; she
 “ signified she did, and pointed to her
 “ throat; but upon examination, I could
 “ find nothing wrong there, either inward-
 “ ly or outwardly. She remained in this
 “ state till the 18th, without however hav-
 “ ing a fit from the time she became speech-
 “ less. On the 18th she had several fits; at
 “ the end of the last of which she found
 “ herself again able to speak. At first she
 “ could only utter her words in a low tone,
 “ as if in a whisper; but presently after
 “ she pronounced them with the same force
 “ as formerly. When she had thus re-
 “ covered her speech, I enquired particu-
 “ larly

“ larly into the nature of the feeling she
 “ had experienced in her throat while
 “ dumb. She said she had felt as if a lump
 “ had been sticking in that part of it which
 “ is immediately behind the upper part of
 “ the breast bone, and that when she swal-
 “ lowed any thing it seemed to pass that
 “ place with difficulty. This feeling was
 “ present the whole time she was speech-
 “ less, and went away as soon as she re-
 “ gained her voice.

“ With respect to the medical treatment
 “ I advised while she was without the power
 “ of speech, I shall only say, that as this
 “ symptom was not attended with any other
 “ sign of palsy, or any indication of a com-
 “ pressed or otherwise diseased brain, I re-
 “ garded it as a part of the disorder under
 “ which she had before laboured, and there-
 “ fore did not think it necessary to alter the
 “ kind of remedies she had already taken.
 “ And under this persuasion of the nature
 “ of the symptom, though I had never
 “ seen a similar case, nor recollected to
 “ have read of one, I did not hesitate to
 “ say to her family, that she would shortly
 “ be as able to speak as ever she had been.

" To complete the history of the case, I
 " may mention, that after persisting in the
 " use of her medicines for about three
 " weeks beyond the time of recovering her
 " voice, she was discharged from the Dis-
 " pensary as cured.

(Signed)

W. C. WELLS."

July 13, 1790.

XXXIV. *Of the Use of Cantharides, taken in Substance, in certain Diseases of the Bladder. By the Same. Read April 17, 1790.*

ALTHOUGH cantharides, as an outward application, are in daily use; as an internal remedy, they are very little known. Such indeed, during the last century, was the general prejudice against them, that in the year 1698, Dr. Grænevelt or Greenfield was, by order of the College of Physicians, committed to Newgate, for having prescribed so dangerous a medicine. I mention this fact, not as affording any proof of the baneful quality of cantharides, but only to show, that societies of men, even the most liberal and well informed, seldom rise greatly superior to the prejudices of the age in which they live.

But the apprehension and dread of poisons has greatly subsided, modern practice has availed itself of many of the most powerful, and physicians are now pretty generally of opinion, that the distinction betwixt poison and medicine consists not in the quality

quality of the substance, but in the dose and skilful application of it.

To return to our subject. Cantharides have been celebrated by Dioscorides, and by many other practical writers, as a powerful diuretic; by Dr. Grænevelt they were accounted also lithontriptic. They have been recommended as being of service in the dropsy, stone, ulcer of the bladder, strangury, gonorrhoea, fluor albus, and suppression of urine. They have been employed likewise to promote the expulsion of the placenta, to procure abortion, to excite venery, and for the cure of impotency.

Whether, upon the whole, their virtues have not been over-rated, and physicians mistaken in some of the qualities they have ascribed to them, we shall now examine.

If by diuretic be meant a power of promoting, or of increasing the secretion of urine, I am of opinion, judging merely from my own experience, that cantharides do not possess any such quality; or only possess it in a very inferior degree; and I am persuaded, that they owe their reputation entirely

tirely to two circumstances ; the first is their general tendency, whether applied to the skin, or given internally, to occasion strangury : the second, their accidental effect in causing a considerable discharge of urine where that evacuation has been suppressed from a defect of the bladder : at least, the examples given by Grænevelt to prove the diuretic power of cantharides are all of this kind.

As for the lithontriptic power of cantharides, we may, without any particular experience on the subject, very safely affirm, that neither the nature of the human calculus, nor the chemical qualities of the medicine, warrant any such opinion, and that cantharides can in no way be serviceable in the stone, unless by promoting its expulsion from the bladder, when of a size capable of being expelled.

Amongst the various diseases, for the cure of which cantharides have been so strongly recommended, there are many where it is evident they can be of no advantage ; and others where it is equally evident that they must be prejudicial. Their efficacy in the
dropsy

dropſy reſts entirely upon a ſuppoſed quality, which, I am confident, they do not poſſeſs; at any rate it will not be denied, that we are under no neceſſity of having recourſe to them, being acquainted with medicines whoſe power in this reſpect is infinitely ſuperiour. When the gravel, or ſmall calculi that deſcend from the kidneys to the bladder, are of a ſize to be carried off along with the urine, cantharides, as I have already obſerved, by exciting the action of the bladder, may aſſiſt their expulſion: but when they are too large to be expelled, this, and every other medicine which increaſes the irritation at the neck of the bladder, muſt greatly aggravate the ſufferings of the patient, and conſequently will be avoided by every judicious phyſician.

As the gonorrhoea and ſtrangury, if not immediately cauſed, are often accompanied by inflammation of the urethra; to increaſe this by any freſh irritation, ſeems to me not a very prudent or even a ſafe practice. That cantharides ſhould prove ſerviceable in procuring abortion, or exciting venery, is, I think, extremely probable, but thoſe perſons who employ them for ſuch

such purposes, are not likely to inform us of the success of their practice. As I have never seen a case of real impotency, I have had no opportunity of judging of the efficacy of medicine in the cure of it; but I have been informed by a very ingenious and experienced surgeon, that he has repeatedly given cantharides with success, to such unhappy patients.

The only cases in which I have hitherto employed cantharides are the fluor albus, and some complaints of the bladder. In the first I have not observed that they were of any service; in the second I have found them a medicine of uncommon efficacy, especially in the ischuria or suppression, and in the incontinency of urine, brought on by over distention of the bladder. It will no doubt be thought a paradox, that the same medicine should be employed with success in two diseases so directly opposite to each other; but, however opposite these complaints may be in appearance, they often arise from the same cause, and either follow in succession, or exist (that is a partial suppression and incontinency) at one and the same time.

Systematic

Systematic writers have enumerated four kinds or species of ischuria, according to the parts of the body, that may occasionally give rise to the disease; thus we have the ischuria renalis, ureteralis, vesicalis, and urethralis, according as the kidneys, ureters, bladder, or urethra are affected; but although it be extremely proper to distinguish the disease in this manner, as there is a possibility of all, or any of those cases occurring; the practical physician knows that a suppression of urine is very seldom owing either to the kidneys or ureters, nature having supplied us with two of each; whilst one in general is sufficient for the purposes of the œconomy; both kidneys are rarely obstructed or diseased at the same time, and even when they are, a fourth or fifth part of one kidney has been found sufficient for the secretion of urine and the functions of life, of which fact I lately saw a very convincing proof. A suppression of urine then, is most commonly, either the consequence of a diseased urethra or prostate gland; or it is owing to some defect in the bladder. But as the first case admits of relief from

from surgery alone, I shall leave the consideration of it to the gentlemen of that profession, and confine my present enquiry to the nature of that suppression of urine which is caused by a defect in the action of the bladder itself, a case where the skill of the physician is no less necessary than the art of the surgeon, to relieve the patient.

We know from physiology that the bladder is not a mere inactive reservoir, or organ possessing only elasticity, but its fibres, like those of the stomach and intestines, are capable of muscular contraction, and which appears absolutely necessary for the expulsion of the urine. From observation also we learn, that the muscular power of the bladder, like that of other hollow bowels, is greatly injured by over distention, and that from a certain degree of distention, this power is either entirely, or at least for a time, destroyed. When from any accident then the urine is retained too long, and the bladder distended beyond what it
can

can bear without injury, it loses its contractile power, becomes incapable of expelling the urine, and a suppression is the inevitable consequence. The degree of distention, and the length of time necessary to produce this, admit of considerable latitude in different persons; but I am convinced that the same cause continuing to act, would finally produce the same effect in every one. Both sexes, as may be supposed, are liable to this complaint, though women more so than men, it being not an unfrequent consequence of child-bearing, when the accoucheur or midwife has not attended to the necessity of drawing off the water, under certain circumstances, during the time of labour.

The *ischuria vesicalis* may be distinguished from the two first species of *ischuria* by the painful swelling at the region of the pubis, and from the third, not only by the preceding history of the patient, but because the suppression in the *ischuria vesicalis* ^{*urethralis*} is seldom complete; the urine in this, either comes away in drops, and with violent stranguary,

strangury, or sometimes a small quantity of water is forced away with violent straining; but the bladder is never completely emptied, and as the urine soon again accumulates, the symptoms and uneasiness return. It is particularly in this species of ischuria that I have experienced the good effects of cantharides, I have not indeed tried them in any other; nor do I suppose, as their action seems confined to the bladder, that there is any other where they could be of service; the only case then in which there is a chance of their being useful, is the one in which I have found them of efficacy. But if cantharides are a useful remedy, surgery, it must be confessed, furnishes a still more certain and expeditious means of relief, to which however there are often very great, and sometimes insuperable objections: delicacy in women, and the pain of introducing the catheter in men, commonly prevent them from submitting to the operation, so long as the suppression is incomplete, or they

* I have seen a pint brought away at a time, and yet the disease has not been removed.

have any hopes of relief from medicine. Strictures in the urethra are sometimes likewise an insurmountable obstacle: nor ought we to conceal from the patient, that though the drawing off the water will relieve him for the present, this must be frequently repeated to cure the disease; as it is generally a considerable time before the bladder recovers sufficient tone and strength to perform its office. It has been the common practice in ischurias, to have recourse to purgatives, diuretics, glysters, the semicupium or tepid bath, &c. and sometimes by this treatment, in recent cases, relief has been procured; but when the complaint has been of long standing, I have never seen much benefit derived from any medicine, unless from cantharides alone.

Another complaint of the bladder, in which I have employed cantharides with advantage, is the incontinency of urine; this disease, the opposite of suppression, is a common symptom accompanying palsy of the lower extremities; sometimes it is occasioned by luxations or distortions of the spine, by the *spina bifida*, or other causes compressing the spinal marrow. In most of those

those unfortunate cases, little or no relief is obtained by medicine; and it is evident, that unless we could cure the palsy, it is in vain to expect a cure for the incontinency of urine.

Blisters applied to the sacrum have been greatly recommended, and in so far as they are serviceable towards the cure of the palsy they are useful; but, if I may judge from a single experiment, they have not so immediate an effect on the bladder as cantharides taken in substance. The experiment I allude to was in the case of a soldier of the Grenadier Guards, who was received into the Middlesex Hospital, for a palsy of the lower extremities; owing to which he could neither retain his urine nor feces. Blisters were applied to the sacrum, caustics were put on each side of the spine, and a variety of medicines were tried, from none of which he derived any permanent advantage. He observed, however, that whilst he took cantharides in substance, he could retain his water for some little time, whilst neither the tincture of cantharides, which was also tried with him, nor blisters to the sacrum, produced any sensible effect.

Besides the palsy of the lower extremities, there are other causes of incontinency of urine, which I shall pass by at present, and only take notice of that incontinency which follows or accompanies the ischuria vesicalis. Two remarkable instances of this, which have occurred to me in practice, will possibly afford the best illustration I can give of the subject.

1st. A young man, twenty-four years of age, after having suffered for two days a partial suppression of urine, was attacked with an almost constant stillicidium, or dribbling of urine; which, at the time he applied to me, had continued six weeks. If the dribbling of urine at any time ceased, the swelling and tension of his belly encreased, and caused great pain and uneasiness. I at first tried the common method of cure; I gave him also forty drops of the tincture of cantharides, three times a day, without the smallest advantage. I then prescribed for him cantharides in powder, beginning with one grain, and encreasing the dose to two grains twice a day. He very soon was sensible of relief, could retain his water a considerable time;

and

and after having taken twelve grains of the medicine, made water, only six or seven times a day, and by continuing the use of it, got perfectly well.

2d. A woman, thirty-seven years of age, had for four months been afflicted with a strangury, which had its origin in overdistention of the bladder: even at the time she applied to me a suppression still remained, as was evident from her complaining of a painful swelling at the region of the pubis. She had taken various medicines without relief, nor was I at first more successful, until I had recourse to cantharides, the powder of which was made into pills of two grains each; of these she took one, morning and evening. At the end of the third day she discharged from the bladder about a tea spoonful of a white glary fluid, and afterwards, made water in the usual quantity, without pain or uneasiness.

The physicians who have recommended cantharides, differ very much as to the dose. Groenevelt gave from nine to twelve grains along with camphor. Dr. Lister's dose was nearly the same. Fabricius ab Aqua

pendente, gave two scruples. Riverius one drachm. Hippocrates gave two whole flies, without the heads and wings; a precaution which Galen reckons very unnecessary. I have never exceeded three or four grains for a dose, as I found this sufficient to produce the desired effect, without occasioning strangury, or indeed any inconvenience. Once or twice patients have complained of slight griping, or pinching in their bowels, but whether owing to the cantharides or not, I could not determine. Dr. Grænevelt always gave camphor along with cantharides, imagining that it prevented the strangury, which they are so apt to produce. I have not tried the experiment, not finding any corrector necessary. I have never seen the strangury, which blisters sometimes occasion, of any serious consequence; and have therefore been under no great apprehension of this symptom coming on.

Were it necessary, I could give some further proofs of the safety with which cantharides may be administered, and of their specific power upon the bladder; but what has been said is probably sufficient

to

to call the attention of physicians to the following practical facts, which it has been the object of this paper to point out.

1. That a suppression of urine is in general occasioned by some affection of the urethra or prostate gland, or is owing to a defect of the bladder itself.

2. That the *ischuria vesicalis* is most commonly brought on by a retention of urine, and over distention of the bladder: that it is accompanied by strangury; and may be distinguished from other species of *ischuria*, not only by this symptom, but also by a painful swelling at the region of the pubis, by the suppression being seldom complete, and always accompanied sooner or later by incontinency of urine.

3. That where there is no particular objection, and the assistance of a surgeon can be procured, the catheter is the quickest and most expeditious mode of relief; but that to cure the patient, it is necessary, for some time, to draw off the water twice a day.

4. That when the operation is impracticable, or when the patient will not submit to it, or finally, when the suppression

is of long standing, and has terminated in an incontinency of urine, in all such cases recourse should immediately be had to cantharides.

5. That it is only cantharides in substance, which, in this case, will be of service, the tincture having been repeatedly tried without effect.

6. That cantharides in the dose of three or four grains twice a day, have not been observed to produce strangury, or any other disagreeable symptom, unless some slight pinchings of the bowels can be reckoned such.

7. That a larger dose of cantharides, if necessary, may possibly be corrected, or its effect in producing strangury obviated by camphire, new milk, oils, &c.

8. That the diuretic power of cantharides, either in tincture or substance, is destitute of foundation, or at least extremely doubtful.

9. That the specific operation of cantharides seems chiefly if not entirely confined to the bladder.

10. That the reputation of cantharides for curing the stone, strangury, and gonorrhoea,

hea, is not warranted by reason, analogy, or experience.

11. That although cantharides have only been employed by me in cases of suppression and incontinency of urine, arising from a diseased state of the bladder: they, in all probability, might be given with advantage in other complaints of that organ.

12. That although incontinency of urine is the very reverse of suppression, yet both the one and the other are induced by over distention of the bladder; and that the ischuria arising from this cause is always, sooner or later, followed, if not accompanied by incontinency of urine; and that this symptom alone is sufficient to distinguish it from every other similar affection.

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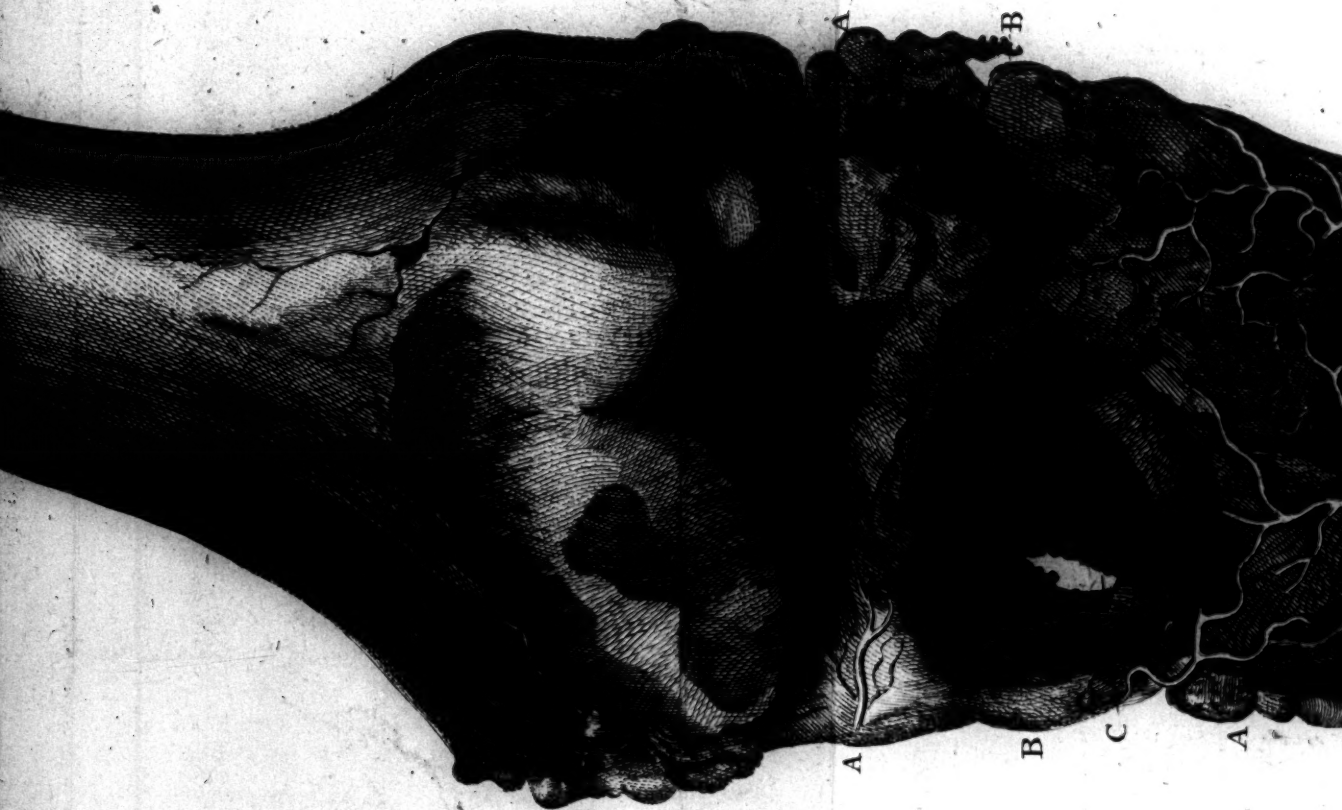
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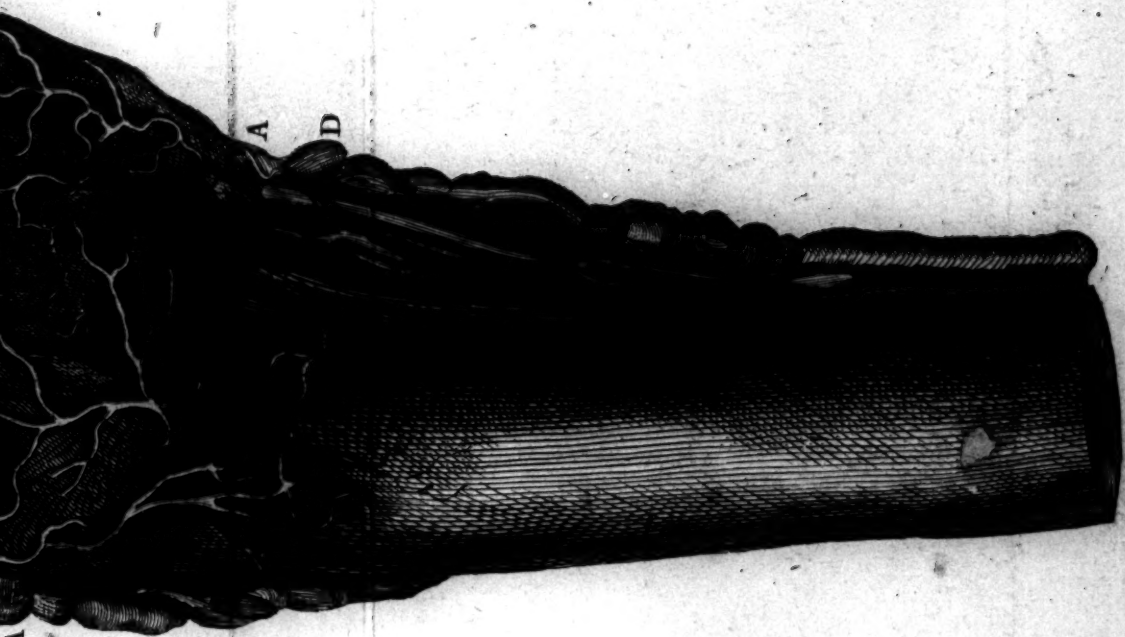
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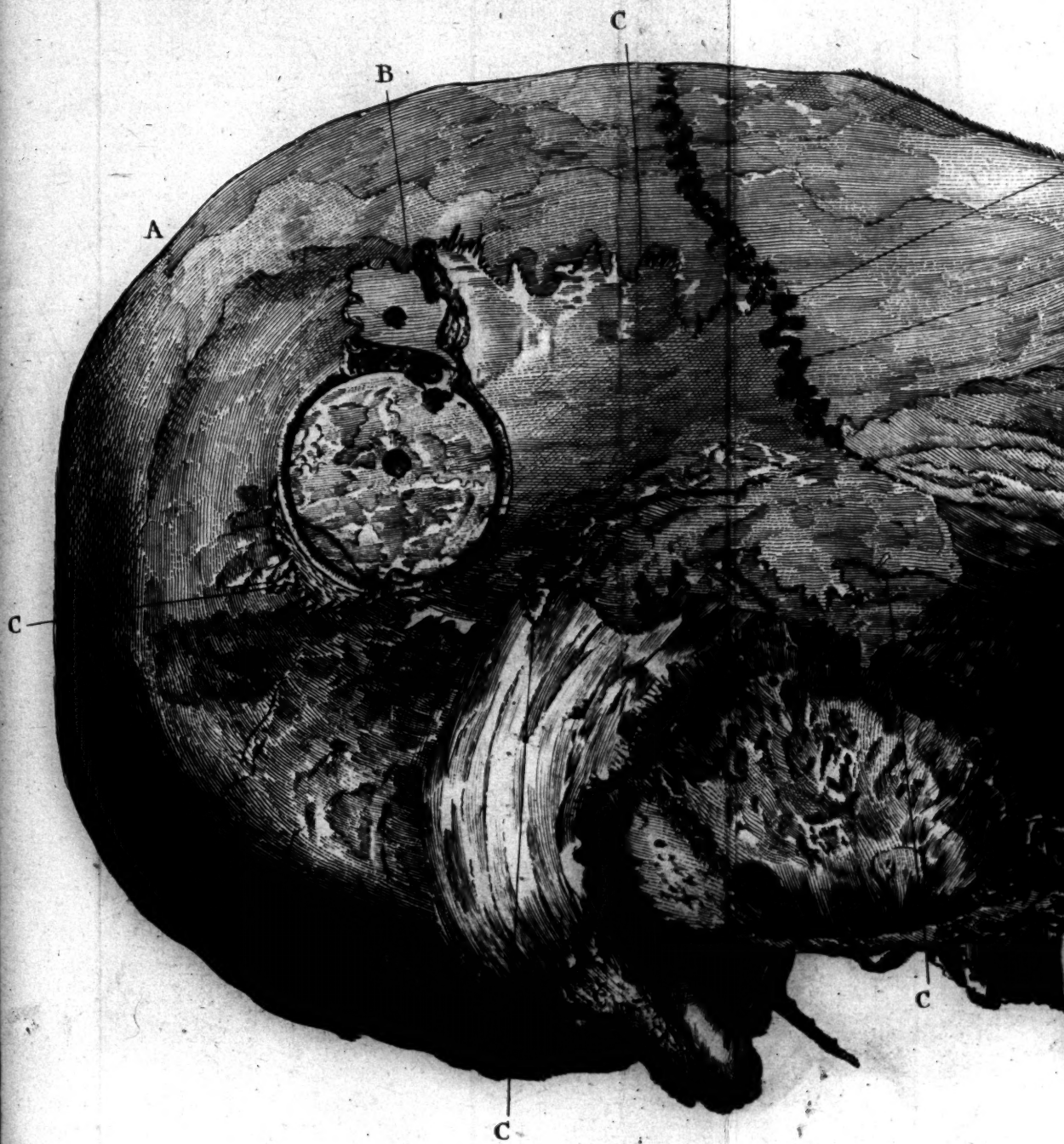


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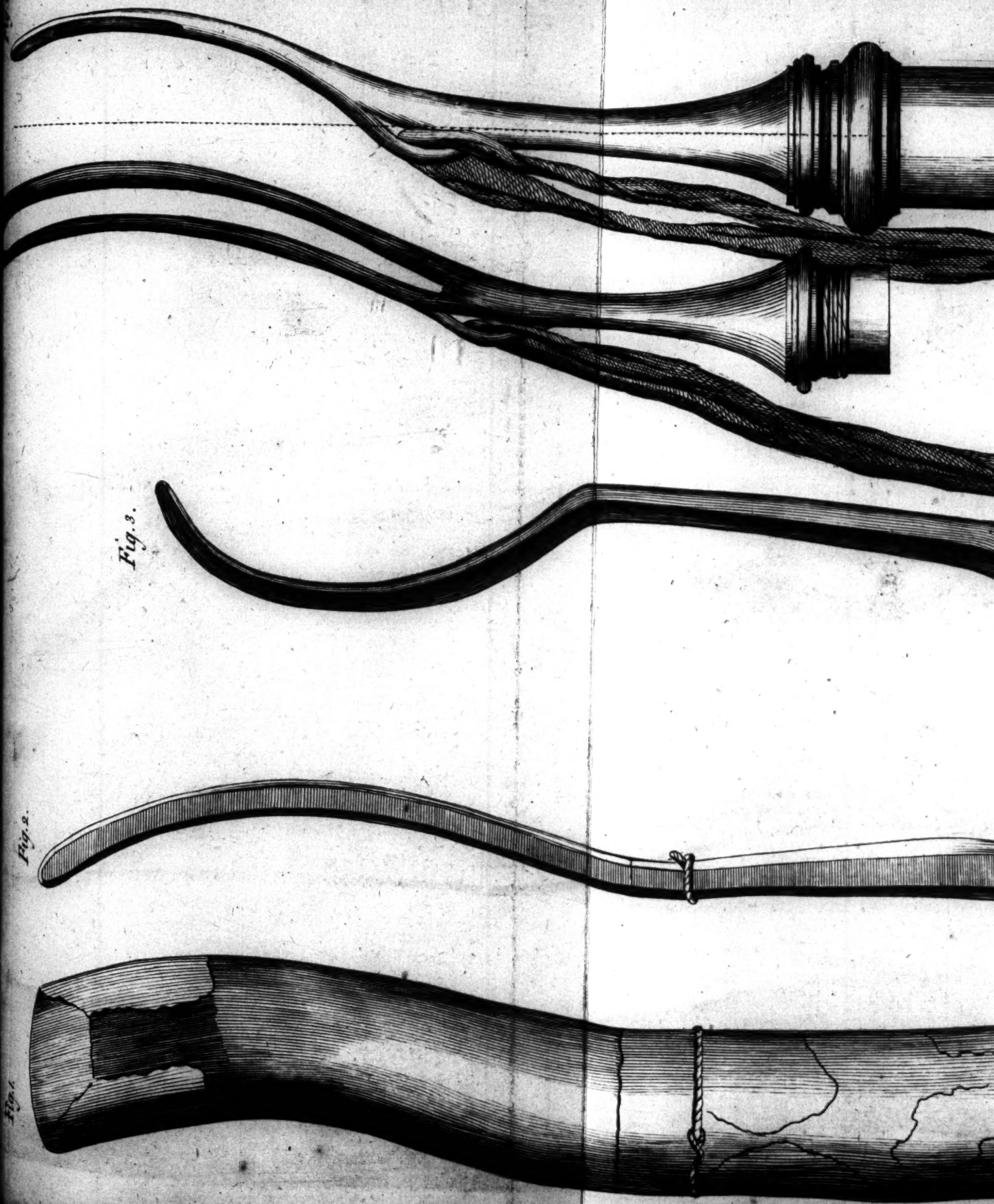


Fig. 3.

Fig. 2.

Fig. 1.

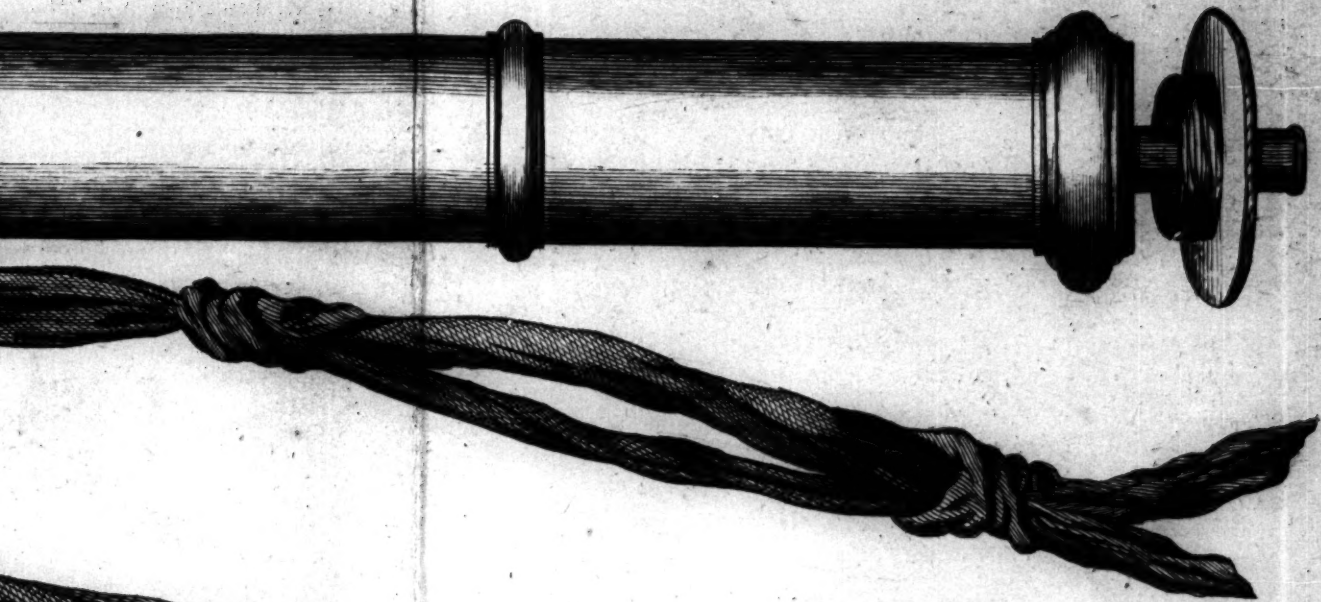


Fig. 6.

